UniPak 2B™

Operator's Manual

DATA I/O

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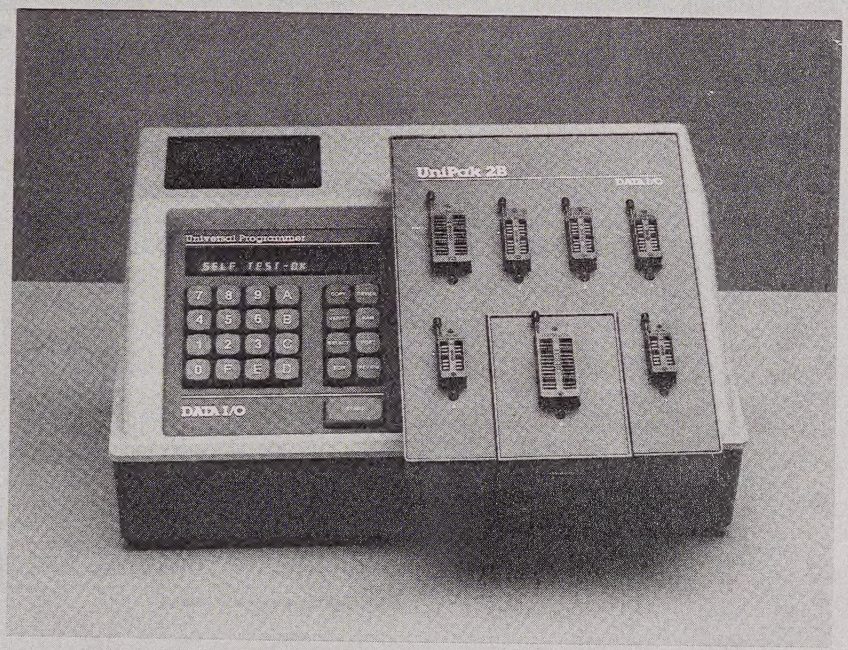
UniPak 2B™



Operator's Manual

DATA I/O

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ORDERING INFORMATION

When ordering this manual use Part Number 981-0179-001.
Applies to: Engineering Part Number 950-0086-001 and up.

Text Reference Number 090-0247-001

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General safety information for operating personnel is contained in this summary. In addition, specific WARNINGS and CAUTIONS appear throughout this manual where they apply and are not included in this summary.

Definitions

WARNING statements identify conditions or practices that could result in personal injury or loss of life.

CAUTION statements identify conditions or practices that could result in damage to equipment or other property.

Symbols

⚠ : This symbol appears on the equipment and it indicates that the user should consult the manual for further detail.

V ∿ : This symbol stands for Vac. For example, 120V∿= 120 Vac

Power Source

Check the voltage selector indicator (located on the rear panel) to verify that the product is configured for the appropriate line voltage.

Grounding the Product

The product is grounded through the grounding conductor of the power cord. To avoid electric shock, plug the power cord into a properly wired and grounded receptacle only. Grounding this equipment is essential for its safe operation.

Power Cord

Use only the power cord specified for your equipment.

Servicing

To reduce risk of electric shock, do not perform any servicing other than that described in this manual.

Operation

Always wear a grounded wrist strap when operating the equipment to prevent the possibility of damage from electrostatic discharge.

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Introduction

This manual contains the operational procedures specific to the UniPak 2B Programming Module; see your programmer's operation manual for programmer-specific procedures, such as program/verify operations. Included in this manual are instructions on:

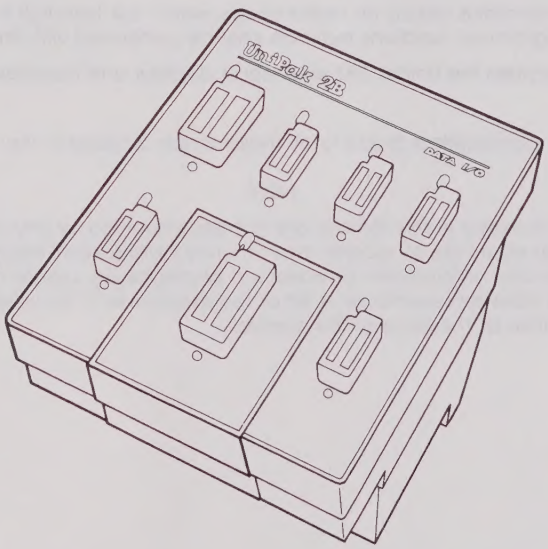
- ☐ GETTING STARTED—includes a sample programming session as well as instructions on device and pinout cartridge insertion and removal.
- ☐ SELECT FUNCTIONS—contains details on select codes, which are two-digit hexadecimal codes that enable special programmer functions that can only be performed with the UniPak 2B installed.
- ☐ ERROR CODES—describes the UniPak 2B's error code displays and corrective action to alleviate the problem.
- ☐ INDEX—provides an alphabetical guide to all major topics covered in the manual.

NOTE

The error codes provided in this manual are not accompanied by any service information. If you would like to receive maintenance data (circuit descriptions and schematics, calibration information, or waveform photographs), please contact your nearest Data I/O sales representative. A list of representatives is included with the warranty information at the back of this manual.

Data I/O's UniPak 2B programs over 800 popular MOS and bipolar devices. Values for programming variables, including pinouts, voltage levels and timing, are stored in firmware tables. When you choose the family and pinout codes for a particular device, the programmer uses information in these tables to assemble a specialized programming routine in scratch RAM. This method allows high-speed operation with minimum firmware overhead.

The UniPak 2B is designed to adapt to the programming requirements of many different devices; specially designed electronic switches allow programming of both bipolar and MOS devices. Pinout variations are handled by permanent device sockets on the UniPak 2B: two 16- pin, one 18-pin, two 20-pin and one 24-pin socket (see figure). One 28-pin socket resides on a pinout cartridge assembly that slides into a receptacle on the main housing of the UniPak 2B front panel.



Optional Features

The UniPak 2B includes one 28-pin cartridge as a standard item. Several optional pinout cartridges are also available, which allow programming of additional devices.

CAUTION

Always hold the UniPak 2B by the chassis when carrying it. Never transport the UniPak 2B by holding onto the pinout cartridge; if it slips out while you are carrying it and the unit drops, serious damage could result.

Data I/O will continue to release pinout cartridges as new devices become available. Check the latest price list or the device list included with this manual for details on which cartridge to use for a particular device. If you wish to purchase any of these cartridges, contact your nearest Data I/O sales representative. A list of representatives is included with the warranty information at the back of this manual.

Orders made with Data I/O must contain the following information:

- ☐ Description of the equipment
- ☐ Quantity of each item ordered
- ☐ Shipping and billing address of firm, including ZIP code
- ☐ Name of person ordering equipment
- ☐ Purchase order number
- ☐ Desired method of shipment

Programmer Compatibility

To be compatible with the UniPak 2B, your programmer may require a hardware and/or firmware update, depending on the model, configuration, and age.

The information that follows will help you determine whether your programmer requires updating. If you find that your programmer does require updating, contact your nearest Data I/O Customer Support Center.

- ☐ System 17—The System 17 must be converted into a System 19 with the latest firmware installed and latest hardware modifications.
- ☐ System 19—Check to determine whether your System 19 contains a 702-1520 or 702-1980 controller board by performing the following steps:
  1. Remove the programming module.
  2. Remove the metal or plastic shield (if any).
  3. Count the number of EPROM firmware sockets located just behind the pak interface connector. If there are four sockets, it is a 702-1520 board. If there are eight sockets, it is a 702-1980 board.

If your System 19 contains a 702-1520 controller board, check the modification status sticker on the bottom of the programmer. If the sticker is not there or if only "1" is marked off, your System 19 requires hardware and firmware updating; contact the nearest Data I/O customer support Center. If "2" is marked, your System 19 is compatible with the UniPak 2B. If your System 19 contains a 702-1980 controller board, it may require a firmware update. To display the configuration number of the firmware in your programmer, key in "SELECT-B2-START". If the configuration number displayed matches one of the numbers listed below, your firmware needs updating.

System 19s Requiring a Firmware Update

System	Rev							
	A	B	C	D	E	F	G	H
1900	F9CF	00AC	07CD	0B11	FC6A	B16C	9D29	—
1901	89CC	CC89	6BCD	0G26	—	—	—	—
1902	C56C	8B82	9141	9002	2068	29CE	3868	3599
1902	2C23	6A9B	3A33	C61D	CC8B	—	—	—

- ☐ 29A Universal Programmer—To be compatible with the UniPak 2B, the 29A programmers must have Rev C or later firmware. To determine the configuration of the firmware in your 29A, key in "SELECT-B2-START" and observe the display. If the hex number matches one listed in the following table, your firmware needs to be updated.
- ☐ 29B Universal Programmer—The UniPak 2B is compatible with Rev A or later software (all 29Bs).
- ☐ 100A Production Programmer—To be compatible with the UniPak 2B, the 100A programmers must have Rev E or later firmware. To determine the configuration of the firmware in your 100A, key in "SELECT-10 START" and observe the display. If the hex number displayed matches one listed in the following table, your firmware needs to be updated.

Model 29A and 100A Programmers Requiring a Firmware Update

Model	Rev	Configuration Number
29A	A	1ECA
	B	20A4
29A (with computer remote control)	A	BB41
	B	C00B
100A	A	917F
	B	9405
	C	9DEE
	D	9BED

Specifications

The physical and environmental specifications are:

- ☐ Altitude: Sea level to 3000 m (10,000 ft)
- ☐ Dimensions: 25.11 x 20.0 x 12.4 cm (9.6 x 7.2 x 4.9 in.)
- ☐ Humidity (operating): 95% maximum (noncondensing)
- ☐ Temperature (operating): 5 to 45° C (41 to 113° F)
- ☐ Temperature (storage): - 40 to 70° C (- 40 to 158° F)
- ☐ Weight: 1.62 kg (3 lb 9 oz)

Warranty and Customer Support

Data I/O equipment is warranted against defects in materials and workmanship. The warranty period of one year, unless specified otherwise, begins when you receive the equipment. Refer to the warranty card inside the back cover of this manual for information on the length and conditions of the warranty. For warranty service, contact your nearest Data I/O customer support center.

Data I/O maintains customer support centers throughout the world, each staffed with factory-trained technicians to provide prompt, quality service. This includes not only repairs, but also calibration of all Data I/O products. A list of all Data I/O customer support centers is located in the back of this manual.

UNIPAK 2B™

User Notes-Version 24.0

984-0179-017 *March 1991*

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This document is provided as a supplement to the UniPak 2B™ Operator's Manual and helps ensure that Data I/O's customers receive the most accurate documentation possible. This document provides information regarding the latest configuration of UniPak 2B (Version 24.0)

CONTENTS OF USER NOTE

- **Configuration Cross Reference Table**
- **Customer Support Offices and Technical Support Information**
- **Acceptance Test Procedure** — This procedure is for customers who require that their equipment be tested before being received.
- **Device List** — The updated Device List documents all of the devices that are currently supported by the UniPak 2B.

Configuration Cross Reference Table

This user note applies to:

Model Number	Version Number	Manual Part Number
UniPak 2B	V15.0	981-0179-002 and up
UniPak 2B	V16.0	981-0179-002 and up
UniPak 2B	V17.0	981-0179-002 and up
UniPak 2B	V18.0	981-0179-004 and up
UniPak 2B	V19.0	981-0179-004 and up
UniPak 2B	V20.0	981-0179-004 and up
UniPak 2B	V21.0	981-0179-004 and up
UniPak 2B	V22.0	981-0179-004 and up
UniPak 2B	V23.0	981-0179-004 and up
UniPak 2B	V24.0	981-0179-004 and up

NOTE

Software version 23.0 required reconfiguring J2 on the Memory Board. If it has not been done, refer to the UniPak 2/2B Software Update Kit Manual (985-0002-019) for jumper placement instructions.

Customer Support Offices

United States

For technical assistance, contact:

Data I/O Customer Resource Center
Telephone: 800 247-5700
Fax: 206 882-1043

For repair, warranty service, or update service, contact your nearest Data I/O Service Center below:

Data I/O Redmond
10525 Willows Road N.E.
P.O. Box 97046
Redmond, WA 98073-9746
Telephone: 206 881-6444
Fax: 206 882-1043
Telex: 152167

Data I/O San Jose
1701 Fox Drive
San Jose, CA 95131
Telephone: 408 437-9600
Fax: 408 437-1218

Data I/O New Hampshire
20 Cotton Road
Nashua, NH 03063
Telephone: 603 889-8511
800 858-5803 (NJ & NY only)
Fax: 603 880-0697

Canada

For technical assistance, contact:

Data I/O Customer Resource Center
Telephone: 800 247-5700
Fax: 206 882-1043

For repair, warranty service, or update service, contact:

Data I/O Canada
6725 Airport Road, Suite 302
Mississauga, Ontario
L4V 1V2 Canada
Telephone: 416 678-0761
Fax: 416 678-7306

Japan

For technical assistance, repair, warranty service, or update service, contact:

Data I/O Japan
Sumitomoseimei Higashishinbashi Bldg. 8F
2-1-7, Higashi-Shinbashi
Minato-Ku, Tokyo 105, Japan
Telephone: 03 3432-6991
Fax: 03 3432-6094 (Sales)
03 3432-6093 (Other)
Telex: 2522685 DATAIO J

Germany

For technical assistance, repair, warranty service, or update service, contact:

Data I/O-Instrumatic Electronic Systems Vertriebs GmbH
Lochhammer Schlag 5a
D-8032 Gräfelfing
Germany
Telephone: 089 858580
Fax: 089 8585810

Other European Countries

For technical assistance, repair, warranty service, or update service, contact the office below and ask for the number of your local Data I/O representative:

Data I/O Europe
World Trade Center
Strawinskylaan 633
1077 XX Amsterdam, The Netherlands
Telephone: +31 (0)20 6622866
Fax: +31 (0)20 6624427

Other Countries Worldwide

For technical assistance, repair, warranty service, or update service, contact the office below and ask for the number of your local Data I/O representative:

Data I/O Intercontinental
10525 Willows Road N.E.
P.O. Box 97046
Redmond, WA USA 98073-9746
Telephone: 206 881-6444
Fax: 206 882-1043
Telex: 4740166

Technical Assistance

To help us provide quick and accurate assistance, please be at your programmer or computer when you call, and have the following ready:

- Product version number
- Product serial number (if available)
- Detailed description of the problem you are experiencing
- Error messages (if any)
- Device manufacturer and part number (if device-related)
- Product manual

For technical assistance, contact the appropriate Customer Support office listed above.

Warranty Service

Data I/O Corporation warrants its products against defects in materials and workmanship for a period of ninety (90) days for software and one (1) year for hardware unless specified otherwise. The warranty begins when the product is shipped.

Data I/O maintains customer service offices throughout the world, each staffed with factory-trained technicians to provide prompt, quality service. For warranty service, contact the appropriate Customer Support office listed above.

Update Service

Data I/O Customer Support is committed to providing you with the support programs you need to keep your Data I/O products in optimum operating condition and up-to-date with the latest, state-of-the-art capabilities.

For more information, or to order a Service Agreement of Update Agreement, contact the appropriate Customer Support office listed above.

Bulletin Board Service

From the Customer Support Bulletin Board Service (BBS) you can obtain a wide range of information on Data I/O products, including current product information, new revision information, known bugs (and work-arounds), helpful application notes, and other miscellaneous information. In addition, the BBS has a collection of DOS utilities you can download.

To learn more about the U.S. Customer Support BBS, call it at 206 882-3211. The protocol is 1200/2400/9600 (Courier HST) baud, 8 data bits, 1 stop bit, and no parity. Online help files throughout the BBS help you learn more about the BBS.

For your nearest Bulletin Board Service outside the U.S., contact the appropriate Customer Support office listed above.

End User Registration and Address Change

If the end user for this product or your address has changed since the Registration Card was mailed, please notify your nearest Customer Support office as listed above. This ensures that you receive information about product enhancements. Be sure to include the product serial number, if available.

UNIPAK 2B™

Acceptance Test Procedure

Data I/O Corporation warrants to the original purchaser of the product described by the UniPak 2B Operator's Manual that the product was fully functional to the extent of its specification at the time of shipment from the factory. Data I/O further certifies that the test equipment used to test the product was calibrated to standards that are traceable to the National Bureau of Standards as appropriate.

This procedure is provided for customers whose company policy requires that an inspection test be performed before the unit may be accepted.

INTRODUCTION

WARNING

This procedure is for qualified engineering personnel only; do not attempt the operation if you are not qualified to do so.

Your UniPak 2B was tested both electrically and mechanically before it was shipped, and was carefully packaged to prevent shipping damage. It should arrive free of any defect, without marks or scratches, and in perfect operating condition. However, carefully inspect the instrument for any damage that may have occurred in transit. If you note any damage, file a claim with the carrier and notify Data I/O.

The UniPak 2B performance check consists of a brief procedure to check supply current/voltages to the socket pins, followed by a keyboard verification of proper operation. The supply current/voltage check is documented on a measurement chart and includes a photograph to compare with the oscilloscope waveforms.

Performance Check

CAUTION

Do not operate the UniPak 2B without a pinout cartridge installed. Accidentally touching the exposed connector pins with a metal object, such as a screwdriver, could damage the unit.

The following equipment is necessary to do the first part of the performance check:

- Three and a half-digit digital multimeter (DMM). The dcV accuracy of the DMM must be ±0.25% or better.
- Dual-trace oscilloscope (Tektronix 465 or equivalent)
- 100-ohm, 5W, 5% carbon-composition resistor
- Pinout cartridge 351B-086

Refer to the UniPak 2B Manual for a listing of compatible units.

Current/Voltage Verification

CAUTION

Remove all devices from the sockets before entering the calibration mode (see the Getting Started section of the UniPak 2B operator's manual for details). Waveform generation may damage any device in the UniPak 2B sockets.

To complete the first part of the performance check, do the following.

NOTE

If readings for any test do not fall within the specification given in the measurement chart, contact your nearest Data I/O Customer Support Center.

1. Install the UniPak 2B into the programmer.
2. Turn the programmer power on (see the programmer manual).
3. Put the programmer into the calibration mode by following the key sequences in the following table.

NOTE

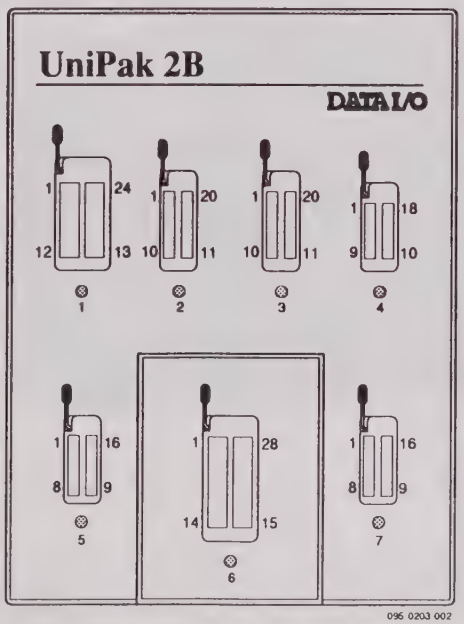
Because the current/voltage verification test checks only supplies that can be accessed externally, some steps of the standard calibration procedure are omitted on the measurement chart. Press [↵] *or* [START] *to increment the programmer to each step listed on the chart.*

Key Sequence to Access the Calibration Model

Programming Mainframe	Enter Calibration Mode	Key Sequence To: Increment Step No.	Decrement Step No.
System 19	Press [SELECT] Press [C] [2] Press [ENTER] Enter Step Number Press [START]	Press [ENTER]	Press [REVIEW]
29A/29B	Press [SELECT] Press [C] [1] Press [START] Enter Step Number Press [START]	Press [START]	Press [REVIEW]
100A	Press [SELECT] Press [1] [2] Enter Step Number Press [START]	Press [START]	Press [Backspace]

4. Perform the steps on the measurement chart. For each general calibration step on the measurement chart do the following:

   - Take measurement readings at the device sockets described on the measurement chart; the figure shows the pin numbers for the sockets.
   - Ground the digital multimeter to socket 7, pin 8 on the front panel of UniPak 2B.
   - Access each new step by pressing [START] or [↵] . The new step number will appear in the display when the UniPak 2B is ready for the next step. To go back to a previous test press [REVIEW] or [Backspace] .

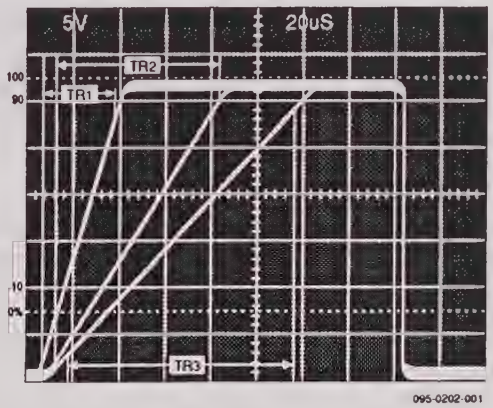


The voltage measurement chart on the following page includes the following headings:

- **Step No.** — tells which step to use for each test. Step numbers are keyed in at the programmer keyboard and are reflected in the display.
- **Test No.** — identifies individual tests for each step.
- **Test Description** — identifies the functions being tested.
- **Measurement Test Location** — tells which socket pins to probe for measurement.
- **Measurement** — specifies allowable measurement ranges. If a reading falls outside the range, contact your nearest Data I/O customer support center.
- **Comments** — gives special instructions for particular tests.

UniPak 2B Performance Check Measurement Chart

Step No.	Test No.	Test Description	Measurement Location Socket Pin	Measurement Min	Nom	Max	Comments
1		V reference supply					
	1	Vcc supply	1/24	11.9V	12.00V	12.10V	
	2	CE supply	1/24	11.90V	12.00V	12.10V	
	3	Bit supply	1/9	25.70V	26.00V	26.20V	
	4	Address supply	1/8	14.80V	15.00V	15.20V	
4	5	Current source supply	1/9	118mA	120mA	122.0mA	Use a 100-ohm, ±5% 2W resistor in series with the multimeter.
5	6	Bit switch rise waveform	1/14				See illustration



	Variable	Min	Nom	Max	Unit
PROGRAM	TR1	26	33	37	µs
	TR2	62	66	70	µs
	TR3	81	100	119	µs

NOTE: All TR's are measured from 10% to 90%.

UniPak 2B Performance Check Measurement Chart (Continued)

Step No.	Test No.	Test Description	Measurement Location Socket Pin	Measurement Min	Nom	Max	Comments
17	7	Pinout cartridge #1 LED					Ensure that pinout cartridge LED is illuminated.
	8	Odd address and data high	6/2,3,5,7,9,11,13,16,18,22, 24,26.	3.5V		6.00V	
	9	Even address and data high	6/1,4,6,8,10,12,15,17,19,21, 23,25,27.	–0.10V		0.40V	
18	10	Odd address and data low	6/2,3,5,7,9,11,13,16,18,22, 24,26.	–0.10V		0.40V	
	11	Even address and data high	6/1,4,6,8,10,12,15,17,19,21, 23,25,27.	3.50V		6.00V	
19	12	Odd data lines high	6/11,13,16,18.	25.50V		26.50V	
	13	Even data lines pullups	6/12,15,17,19.	4.50V		5.50V	
20	14	Odd data lines pullups	6/11,13,16,18.	4.50V		5.50V	
	15	Even data lines high	6/12,15,17,19.	25.50V		26.50V	

Verification of Operation

Once the current/voltage verification is finished, you may proceed to the operational verification part of the test. This procedure consists of programming a blank PROM with data from a master PROM.

NOTE

See your programmer's manual for specific details on doing load operations; the procedure here gives only general instructions. The sumcheck of the master device must be known and written down before beginning this operation. Do the following to complete the verification of operation.

1. Install the UniPak 2B into the programming mainframe.

2. Turn the programmer power on (see the programmer manual).

3. Transfer the device data from the master PROM to the programmer's RAM (see the programmer manual).

4. Transfer the RAM data to the blank device (see the programmer manual). The sumcheck displayed when the operation is completed must match the known sumcheck of the master PROM; if not, contact your nearest Data I/O Customer Support Center.

UNIPAK 2B™

V24.0 Device List

DEVICE LIST

Following is a complete listing of the devices currently programmable with the UniPak 2B. The devices are organized by manufacturer and are listed in numerical order. References in the footnote column are explained in the pages following the list.

CAUTION

Be sure you enter the proper family and pinout codes for the device you want to program. If you enter an incorrect family and pinout code, you may damage your device. Be aware that although you may enter an independently valid family code and an independently valid pinout code, when combined, these may produce an invalid (illegal) combination. The correct combination for your device is published in this table. All family/pinout combinations not contained in this table are considered "illegal." Data I/O assumes no responsibility or liability for results produced by entry of "illegal" family/pinout combinations.

Data I/O Device Support Policy/Liability

1. Data I/O strives to achieve more device support approvals from semiconductor manufacturers than any other programmer manufacturer or software developer.

2. Every effort is made to program an adequate number of samples according to the manufacturer supplied specification, and verify waveforms as per that specification prior to release of support. Manufacturers' approvals are to be sought in parallel with this process.

3. Data I/O's objective is to seek and obtain approvals on all devices.

4. Data I/O has made every attempt to ensure that the device information (as provided by the device manufacturer) contained in our programmers, software and documentation is accurate and complete. However, Data I/O assumes no liability for errors, or for any damages, whether direct, indirect, consequential or incidental, that result from use of documents provided with equipment or from the equipment or software which it accompanies, regardless of whether or not Data I/O has been advised of the possibility of such loss or damage.

Key To Device List Headings

An explanation of each of the column headings is given below.

Device Part Number:	The number assigned by the device manufacturer
Pins:	The number of pins on the device package.
Package Type:	The type of package that the integrated circuit is packaged in; e.g., DIP (dual in-line package) or PLCC (plastic leadless chip carrier).
Part Type:	The type of part, such as EPROM, EEPROM, or PAL.
Footnote:	Numbers which correspond to footnotes described at the end of the device list. The footnotes provide additional information about a device. Each footnote number corresponds to a numbered description at the end of the device list.
Product Version:	A number that specifies the earliest version of UniPak 2B software that will program the device to the manufacturer's latest specifications.
Family Code:	A 2- or 3-digit hexadecimal number that designates the programming algorithm (family).
Pinout Code:	A 2- or 3-digit hexadecimal number used to differentiate device types based on pin assignment and array size (pinout).
Adapter:	The slide-in cartridge required to configure the programming pak to a specific device.

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
Advanced Micro Devices/MMI								
100P44	20	DIP	PROM	–	V11	61	0A	351BAMD
10P4	18	DIP	PLE	–	V09	18	05	–
10P44	20	DIP	PROM	–	V11	61	0A	351BAMD
10P8	24	DIP	PLE	–	V09	18	16	–
10R8	24	DIP	PLE	k	V09	18	86	–
11P4	18	DIP	PLE	–	V09	18	06	–
11P8	24	DIP	PLE	–	V09	18	21	–
11RA8	24	DIP	PLE	l	V09	18	A3	–
11RS8	24	DIP	PLE	l	V09	18	A3	–
12P4	20	DIP	PLE	–	V09	18	53	–
12P8	24	DIP	PLE	–	V09	18	63	–
1736	8	DIP	PROM	v	V18	127	0EE	351B120D
1765	8	DIP	PROM	v	V21	15F	151	351B120D
2708	24	DIP	EPROM	–	V07	21	27	–
27128	28	DIP	EPROM	–	V07	AF	51	351B086
27128A	28	DIP	EPROM	–	V07	C1	51	351B086
27128AP	28	DIP	EPROM	–	V13	D6	51	351B086
2716	24	DIP	EPROM	–	V07	19	23	–
2716B	24	DIP	EPROM	–	V11	C2	23	–
27256	28	DIP	EPROM	–	V07	C1	32	351B086
27256P	28	DIP	EPROM	–	V13	D6	32	351B086
2732	24	DIP	EPROM	–	V07	19	24	–
2732A	24	DIP	EPROM	–	V07	27	24	–
2732B	24	DIP	EPROM	–	V11	C2	24	–
27512	28	DIP	EPROM	a	V07	DD	A4	351B086
2764	28	DIP	EPROM	–	V07	AF	33	351B086
2764	32	LCC	EPROM	w	V15	AF	C1	351B099
2764A	28	DIP	EPROM	–	V07	C1	33	351B086
2764AP	28	DIP	EPROM	–	V13	D6	33	351B086
27C010	32	DIP	EPROM	b	V24	5C	CB	351B104/BD
27C010	32	LCC	EPROM	b,w	V24	5C	DE	351B104P/BP
27C010	32	PLCC	EPROM	b	V24	5C	DE	351B104P/BP

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C020	32	DIP	EPROM	b	V19	D6	F5	351B104/BD
27C020	32	LCC	EPROM	b,v,w	V24	5C	12D	351B104P/BP
27C040	32	DIP	EPROM	b	V23	5C	F6	351B104/BD
27C100	32	DIP	EPROM	b	V20	D6	CC	351B104/BD
27C1024	40	DIP	EPROM	b,o	V18	5F	A8	351B095
27C1024	44	LCC	EPROM	b,q,ad	V18	5F	88	351B095P
27C128	28	DIP	EPROM	–	V23	05C	051	351B086
27C128	32	LCC	EPROM	w	V24	5C	C2	351B099
27C191	24	DIP	PROM	–	V15	EA	21	–
27C2048	40	DIP	EPROM	b,o,v	V21	05F	16B	351B095
27C256	28	DIP	EPROM	–	V23	5C	32	351B086
27C256	32	LCC	EPROM	w	V23	5C	C3	351B099
27C256	32	PLCC	EPROM	–	V24	5C	C3	351B099
27C256P	28	DIP	EPROM	–	V13	D6	32	351B086
27C291	24	DIP	PROM	–	V15	EA	21	–
27C43	24	DIP	PROM	–	V20	EA	63	–
27C45	28	DIP	PROM	aa	V20	0EA	142	351B066
27C49	24	DIP	PROM	–	V15	EA	67	–
27C51	28	DIP	PROM	v	V18	129	120	351B086
27C512	28	DIP	EPROM	a	V23	5E	A4	351B086
27C512	32	LCC	EPROM	a	V24	5E	C4	351B099
27C512	28	PLCC	EPROM	a	V24	5E	C4	351B099
27C512P	28	DIP	EPROM	a	V13	DA	A4	351B086
27C64	28	DIP	EPROM	–	V23	5C	33	351B086
27C64	32	LCC	EPROM	w	V24	5C	C1	351B099
27C64	32	PLCC	EPROM	–	V24	5C	C1	351B099
27H010	32	DIP	EPROM	b	V24	5C	CB	351B104/BD
27LS18	16	DIP	PROM	–	V07	16	02	–
27LS184	18	DIP	PROM	–	V07	16	06	–
27LS185	18	DIP	PROM	–	V07	16	06	–
27LS19	16	DIP	PROM	–	V07	16	02	–
27PS181	24	DIP	PROM	–	V07	16	37	–
27PS184	18	DIP	PROM	–	V07	16	06	–
27PS185	18	DIP	PROM	–	V07	16	06	–
27PS191	24	DIP	PROM	–	V07	16	68	–
27PS281	24	DIP	PROM	–	V07	16	37	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27PS291	24	DIP	PROM	–	V07	16	68	–
27PS41	20	DIP	PROM	–	V07	16	53	–
27PS43	24	DIP	PROM	–	V07	16	63	–
27S08	16	DIP	PROM	–	V07	15	02	–
27S09	16	DIP	PROM	–	V07	15	02	–
27S10	16	DIP	PROM	–	V07	15	01	–
27S11	16	DIP	PROM	–	V07	15	01	–
27S12	16	DIP	PROM	–	V07	16	03	–
27S13	16	DIP	PROM	–	V07	16	03	–
27S13	20	PLCC	PROM	–	V14	16	6D	351B088
27S15	24	DIP	PROM	–	V07	16	79	351B068
27S18	16	DIP	PROM	–	V07	16	02	–
27S180	24	DIP	PROM	–	V07	16	37	–
27S181	24	DIP	PROM	–	V07	16	37	–
27S184	18	DIP	PROM	–	V07	16	06	–
27S185	18	DIP	PROM	–	V07	16	06	–
27S19	16	DIP	PROM	–	V07	16	02	–
27S19	20	PLCC	PROM	–	V14	16	6C	351B087
27S190	24	DIP	PROM	–	V07	16	68	–
27S191	24	DIP	PROM	–	V07	16	68	–
27S191	28	PLCC	PROM	–	V13	16	BF	351B093
27S20	16	DIP	PROM	–	V07	16	01	–
27S21	16	DIP	PROM	–	V07	16	01	–
27S21	20	PLCC	PROM	–	V14	16	6B	351B088
27S25	24	DIP	PROM	–	V07	16	65	–
27S25	28	PLCC	PROM	–	V14	16	8F	351B093
27S26	22	DIP	PROM	–	V07	16	85	351B067
27S27	22	DIP	PROM	–	V07	16	85	351B067
27S28	20	DIP	PROM	–	V07	16	09	–
27S280	24	DIP	PROM	–	V07	16	37	–
27S281	24	DIP	PROM	–	V07	16	37	–
27S29	20	DIP	PROM	–	V07	16	09	–
27S290	24	DIP	PROM	–	V07	16	68	–
27S291	24	DIP	PROM	–	V07	16	68	–
27S30	24	DIP	PROM	–	V07	16	36	–
27S31	24	DIP	PROM	–	V07	16	36	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27S32	18	DIP	PROM	–	V07	16	38	–
27S33	18	DIP	PROM	–	V07	16	38	–
27S33	28	PLCC	PROM	–	V15	16	F4	351B088
27S35	24	DIP	PROM	–	V07	16	66	–
27S35	28	PLCC	PROM	–	V14	16	90	351B093
27S37	24	DIP	PROM	–	V07	16	66	–
27S40	20	DIP	PROM	–	V07	16	53	–
27S41	20	DIP	PROM	–	V07	16	53	–
27S43	24	DIP	PROM	–	V07	16	63	–
27S45	24	DIP	PROM	c	V07	16	77	351B066
27S45SA	24	DIP	PROM	c	V15	16	77	351B066
27S47	24	DIP	PROM	c	V07	16	77	351B066
27S49	24	DIP	PROM	–	V12	16	67	–
27S49SA	24	DIP	PROM	–	V17	16	67	–
27S51	28	DIP	PROM	–	V11	16	78	351B101
27S65	24	DIP	PROM	d	V07	16	93	351B073
27S65	28	PLCC	PROM	d	V15	16	F0	351B092
27S75	24	DIP	PROM	e	V07	16	94	351B073
27S85	24	DIP	PROM	f	V07	16	95	351B073
27S85	28	PLCC	PROM	f	V15	16	F2	351B092
2817A	28	DIP	EEPROM	–	V11	BF	A2	351B086
2864A	28	DIP	EEPROM	–	V13	CA	A6	351B086
2864AE	28	DIP	EEPROM	v	V15	114	0A6	351B086
2864B	28	DIP	EEPROM	–	V11	CA	A6	351B086
2864BE	28	DIP	EEPROM	v	V15	114	0A6	351B086
28F010	32	DIP	EEPROM	b,v	V21	135	118	351B104/BD
28F010	32	LCC	EPROM	v,w	V23	135	12A	351B104P/BP
28F010	32	PLCC	EPROM	v	V23	135	12A	351B104P/BP
28F512	32	DIP	EPROM	v	V20	135	117	351B104/BD
28F512	32	PLCC	EEPROM	v	V22	135	129	351B104P/BP
28F512-P1	32	LCC	EEPROM	v,w	V22	135	129	351B104P/BP
29750A	16	DIP	PROM	–	V07	16	02	–
29751A	16	DIP	PROM	–	V07	16	02	–
29760A	16	DIP	PROM	–	V07	16	01	–
29761A	16	DIP	PROM	–	V07	16	01	–
29770	16	DIP	PROM	–	V07	16	03	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
29771	16	DIP	PROM	–	V07	16	03	–
29774	22	DIP	PROM	–	V07	16	85	351B067
29775	22	DIP	PROM	–	V07	16	85	351B067
53/6300	16	DIP	PROM	–	V07	E5	01	–
53/6301	16	DIP	PROM	–	V07	E5	01	–
53/6305	16	DIP	PROM	–	V07	E5	03	–
53/6306	16	DIP	PROM	–	V07	E5	03	–
53/6308	20	DIP	PROM	–	V07	D1	08	–
53/6309	20	DIP	PROM	–	V07	D1	08	–
53/6330	16	DIP	PROM	–	V07	E7	02	–
53/6331	16	DIP	PROM	–	V07	E7	02	–
53/6335	24	DIP	PROM	–	V07	D1	14	–
53/6336	24	DIP	PROM	–	V07	D1	14	–
53/6340	24	DIP	PROM	–	V07	D1	15	–
53/6341	24	DIP	PROM	–	V07	D1	15	–
53/6348	20	DIP	PROM	–	V07	D1	09	–
53/6349	20	DIP	PROM	–	V07	D1	09	–
53/6352	18	DIP	PROM	–	V07	D1	05	–
53/6353	18	DIP	PROM	–	V07	D1	05	–
53/6380	24	DIP	PROM	–	V07	D1	16	–
53/6381	24	DIP	PROM	–	V07	D1	16	–
53/6388	18	DIP	PROM	–	V07	D1	06	–
53/6389	18	DIP	PROM	–	V07	D1	06	–
53/63D1641	24	DIP	PROM	–	V07	B2	80	351B073
53/63DA1643	24	DIP	PROM	m	V07	AA	87	351B073
53/63DA441	24	DIP	PROM	h	V07	AA	AC	351B073
53/63DA442	24	DIP	PROM	h	V07	AA	AC	351B073
53/63DA841	24	DIP	PROM	n	V07	AA	AD	351B073
53/63LS140	16	DIP	PROM	–	V07	18	01	–
53/63LS141	16	DIP	PROM	–	V07	18	01	–
53/63LS1681	24	DIP	PROM	–	V11	18	21	–
53/63LS240	16	DIP	PROM	–	V07	18	03	–
53/63LS241	16	DIP	PROM	–	V07	18	03	–
53/63LS441	18	DIP	PROM	–	V07	18	05	–
53/63PL1681	24	DIP	PROM	–	V07	18	21	–
53/63PS1681	24	DIP	PROM	–	V07	18	21	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
53/63RA1681	24	DIP	PROM	l	V07	18	A3	–
53/63RA441	18	DIP	PROM	–	V07	18	07	–
53/63RA481	24	DIP	PROM	–	V07	EC	65	–
53/63RS1681	24	DIP	PROM	l	V07	18	A3	–
53/63RS881	24	DIP	PROM	k	V07	18	86	–
53/63S080	16	DIP	PROM	–	V07	18	02	–
53/63S081	16	DIP	PROM	–	V07	18	02	–
53/63S140	16	DIP	PROM	–	V07	18	01	–
53/63S141	16	DIP	PROM	–	V07	18	01	–
53/63S1641	20	DIP	PROM	–	V07	18	53	–
53/63S1681	24	DIP	PROM	–	V07	18	21	–
53/63S1681J	24	DIP	PROM	–	V15	18	21	–
53/63S240	16	DIP	PROM	–	V07	18	03	–
53/63S241	16	DIP	PROM	–	V07	18	03	–
53/63S280	20	DIP	PROM	–	V07	18	08	–
53/63S281	20	DIP	PROM	–	V07	18	08	–
53/63S285	24	DIP	PROM	–	V09	18	14	–
53/63S3281	24	DIP	PROM	–	V07	18	63	–
53/63S440	18	DIP	PROM	–	V07	18	05	–
53/63S441	18	DIP	PROM	–	V07	18	05	–
53/63S480	20	DIP	PROM	–	V07	18	09	–
53/63S481	20	DIP	PROM	–	V07	18	09	–
53/63S485	24	DIP	PROM	–	V09	18	15	–
53/63S6481	24	DIP	PROM	–	V07	18	67	–
53/63S840	18	DIP	PROM	–	V07	18	06	–
53/63S841	18	DIP	PROM	–	V07	18	06	–
53/63S880	24	DIP	PROM	–	V11	18	16	–
53/63S881	24	DIP	PROM	–	V07	18	16	–
5P16	24	DIP	PLE	–	V11	17	CD	351B110
5P8/A	16	DIP	PLE	–	V09	18	02	–
63D1641	28	PLCC	PROM	–	V07	B2	9B	351B092
63DA1643	28	PLCC	PROM	m	V07	AA	9D	351B092
63DA441	28	PLCC	PROM	h	V07	AA	9F	351B092
63DA442	28	PLCC	PROM	h	V07	AA	9F	351B092
63DA841	28	PLCC	PROM	n	V07	AA	A0	351B092
63RA1681	28	PLCC	PROM	l	V07	18	9E	351B093

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
63RA481	28	PLCC	PROM	–	V07	EC	8F	351B093
63RS1681	28	PLCC	PROM	l	V07	18	9E	351B093
63RS881	28	PLCC	PROM	k	V07	18	9C	351B093
63S080	20	PLCC	PROM	–	V07	18	6C	351B087
63S081	20	PLCC	PROM	–	V07	18	6C	351B087
63S140	20	PLCC	PROM	–	V07	18	6B	351B088
63S141	20	PLCC	PROM	–	V07	18	6B	351B088
63S1641	20	PLCC	PROM	–	V13	18	8C	351B090
63S1680	28	PLCC	PROM	–	V07	18	8B	351B093
63S1681	28	PLCC	PROM	–	V07	18	8B	351B093
63S240	20	PLCC	PROM	–	V07	18	6D	351B088
63S241	20	PLCC	PROM	–	V07	18	6D	351B088
63S280	20	PLCC	PROM	–	V07	18	7B	351B089
63S281	20	PLCC	PROM	–	V07	18	7B	351B089
63S3281	28	PLCC	PROM	–	V07	18	8E	351B093
63S440	20	PLCC	PROM	–	V07	18	6E	351B088
63S441	20	PLCC	PROM	–	V07	18	6E	351B088
63S480	20	PLCC	PROM	–	V07	18	7C	351B089
63S481	20	PLCC	PROM	–	V07	18	7C	351B089
63S6481	28	PLCC	PROM	–	V07	18	9A	351B093
63S841	20	PLCC	PROM	–	V07	18	6F	351B088
63S881	28	PLCC	PROM	–	V07	18	8A	351B093
6P16	24	DIP	PLE	–	V11	17	CE	351B110
8751H	40	DIP	MICRO	g	V09	54	58	351B071
8751H	44	LCC	MICRO	g,ad	V15	54	D4	351B103P
8753H	40	DIP	MICRO	g	V07	54	6A	351B071
8753H	44	LCC	MICRO	g,ad	V15	54	5B	351B103P
87C51	40	DIP	MICRO	v	V21	15A	128	351B103
87C51	44	LCC	MICRO	v,ad	V24	15A	1B2	351B103P
87C51	44	PLCC	MICRO	v	V24	15A	1B2	351B103P
87C521	40	DIP	MICRO	v	V21	15A	121	351B103
87C521	44	LCC	MICRO	v,ad	V24	15A	1B3	351B103P
87C52T2	40	DIP	MICRO	v	V24	15A	121	351B103
87C52T2	44	LCC	MICRO	v,ad	V24	15A	1B3	351B103P
87C541	40	DIP	MICRO	v	V21	15A	122	351B103
87C541	44	LCC	MICRO	v,ad	V21	15A	135	351B103P

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
8P4	16	DIP	PLE	–	V09	18	01	–
8P8	20	DIP	PLE	–	V09	18	08	–
9708	24	DIP	EPROM	–	V07	21	27	–
9716	24	DIP	EPROM	–	V07	19	23	–
9732	24	DIP	EPROM	–	V07	19	24	–
9764	28	DIP	EPROM	–	V07	AF	33	351B086
9864	28	DIP	EEPROM	–	V07	C9	A6	351B086
9P4	16	DIP	PLE	–	V09	18	03	–
9P8	20	DIP	PLE	–	V09	18	09	–
9R8	24	DIP	PLE	–	V09	EC	65	–
9R8	28	PLCC	PLE	–	V15	EC	8F	351B093
Asahi Kasei								
27CX161	24	DIP	EPROM	–	V22	82	68	–
27CX162	24	DIP	EPROM	–	V22	82	68	–
27CX321	24	DIP	EPROM	x	V24	82	63	–
27CX322	24	DIP	EPROM	x	V22	82	63	–
27CX641	24	DIP	EPROM	–	V22	82	67	–
27CX642	24	DIP	EPROM	–	V22	82	67	–
28C64	28	DIP	EEPROM	–	V22	CA	98	351B086
ATMEL								
27256	28	DIP	EPROM	–	V11	93	32	351B086
27C010	32	DIP	EPROM	b	V18	5C	CB	351B104/BD
27C010	32	JLCC	EPROM	b	V23	5C	DE	351B104P/BP
27C010	32	LCC	EPROM	w,b	V21	5C	DE	351B104P/BP
27C010	32	PLCC	EPROM	b	V21	5C	DE	351B104P/BP
27C1024	40	DIP	EPROM	b,o	V16	5F	A8	351B095
27C1024	44	LCC	EPROM	b,q,ad	V16	5F	88	351B095P
27C128	28	DIP	EPROM	–	V11	93	51	351B086
27C256	28	DIP	EPROM	–	V11	93	32	351B086
27C256	32	LCC	EPROM	w	V16	93	C3	351B099
27C256	32	PLCC	EPROM	–	V14	93	C3	351B099
27C256R	28	DIP	EPROM	–	V22	116	032	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C256R	32	LCC	EPROM	v,w	V23	116	0C3	351B099
27C256R	32	PLCC	EPROM	v	V23	116	0C3	351B099
27C512	28	DIP	EPROM	a	V11	4B	A4	351B086
27C512	32	LCC	EPROM	a,w	V16	4B	C4	351B099
27C512	32	PLCC	EPROM	a	V15	4B	C4	351B099
27C512R	28	DIP	EPROM	v	V20	116	0A4	351B086
27C512R	32	JLCC	EPROM	v	V23	116	0C4	351B099
27C512R	32	LCC	EPROM	v,w	V23	116	0C4	351B099
27C512R	32	PLCC	EPROM	v	V23	116	0C4	351B099
27C513	28	DIP	EPROM	a	V11	5B	5E	351B086
27C513R	28	DIP	EPROM	a	V22	116	05E	351B086
27C515	28	DIP	EPROM	a	V11	5B	CA	351B086
27C64	28	DIP	EPROM	–	V11	93	33	351B086
27HC256	28	DIP	EPROM	–	V11	93	32	351B086
27HC256	32	LCC	EPROM	w	V16	93	C3	351B099
27HC256	32	PLCC	EPROM	–	V15	93	C3	351B099
27HC64	28	DIP	EPROM	–	V11	93	33	351B086
27HC64	32	LCC	EPROM	w	V16	93	C1	351B099
27HC641	24	DIP	EPROM	–	V11	90	67	–
27HC641R	24	DIP	EPROM	v	V24	115	067	–
27HC642	24	DIP	EPROM	–	V11	90	67	–
28C04	24	DIP	EEPROM	–	V11	C4	82	–
28C16	24	DIP	EEPROM	–	V11	C4	96	–
28C16	32	PLCC	EEPROM	v	V15	0C4	10D	351B099
28C17	28	DIP	EEPROM	–	V11	C4	A2	351B086
28C256	28	DIP	EEPROM	s	V16	BA	99	351B086
28C256	32	PLCC	EEPROM	s	V19	BA	ED	351B099
28C64	28	DIP	EEPROM	–	V11	C4	98	351B086
28C64	32	PLCC	EEPROM	–	V15	C4	5D	351B099
28HC16	24	DIP	EEPROM	–	V11	C4	96	–
28HC17	28	DIP	EEPROM	–	V11	C4	A2	351B086
28HC191	24	DIP	PROM	–	V18	D2	1C	–
28HC256	28	DIP	EEPROM	s	V16	BA	99	351B086
28HC291	24	DIP	PROM	–	V18	D2	1C	–
28HC64	28	DIP	EEPROM	–	V16	C4	98	351B086
28HC64	32	LCC	EEPROM	w	V16	C4	5D	351B099

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
28HC64	32	PLCC	EEPROM	–	V19	C4	5D	351B099
28MC010	32	DIP	EEPROM	s,v	V20	0BA	110	351B104/BD
28PC64	28	DIP	EEPROM	–	V16	C4	98	351B086
28PC64	32	LCC	EEPROM	w	V16	C4	5D	351B099
28PC64	32	PLCC	EEPROM	–	V19	C4	5D	351B099
29C256	28	DIP	PEROM	v	V20	0BA	13A	351B086
32C16	40	DIP	PROM	v	V24	05F	1B4	351B095
CATALYST Semiconductor, Inc.								
27010	32	DIP	EPROM	b	V19	5C	CB	351B104/BD
27128A	28	DIP	EPROM	–	V16	5C	51	351B086
27256	28	DIP	EPROM	–	V16	5C	32	351B086
27512	28	DIP	EPROM	a	V16	5E	A4	351B086
2764A	28	DIP	EPROM	–	V16	5C	33	351B086
27C210	40	DIP	EPROM	b,o	V18	5F	A8	351B095
27HC256	28	DIP	EPROM	–	V19	5C	32	351B086
28C16A	24	DIP	EEPROM	–	V16	C3	96	–
28C17A	28	DIP	EEPROM	–	V16	C3	A2	351B086
28C256	28	DIP	EEPROM	–	V23	0C3	099	351B086
28C64A	28	DIP	EEPROM	–	V22	C3	98	351B086
59C11	8	DIP	EEPROM	v	V17	123	11D	351B120D
93C46	8	DIP	EEPROM	v	V16	118	10E	351B120D
Cypress Semiconductor								
7C225	24	DIP	PROM	–	V12	F0	B6	–
7C235	24	DIP	PROM	h	V12	F0	B5	–
7C245	24	DIP	PROM	c	V14	F4	B0	–
7C245A	24	DIP	PROM	c,v	V15	10B	0B0	–
7C251	28	DIP	PROM	–	V14	EB	E6	351B086
7C253	28	DIP	PROM	–	V17	EB	E6	351B086
7C254	28	DIP	PROM	–	V14	EB	E6	351B086
7C261	24	DIP	PROM	–	V15	EF	31	–
7C263	24	DIP	PROM	–	V15	EF	31	–
7C264	24	DIP	PROM	–	V15	EF	31	–
7C265	28	DIP	PROM	t	V21	ED	E5	351B086
7C266	28	DIP	PROM	v	V21	0EF	12C	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
7C269	28	DIP	PROM	t	V14	ED	E5	351B086
7C271	28	DIP	PROM	v	V21	142	13D	351B086
7C274	28	DIP	PROM	v	V23	142	13E	351B086
7C277	28	DIP	PROM	v,ae	V23	142	188	351B086
7C279	28	DIP	PROM	v,ae	V23	142	176	351B086
7C281	24	DIP	PROM	–	V12	EE	B4	–
7C282	24	DIP	PROM	–	V12	EE	B4	–
7C285	28	DIP	PROM	v	V23	190	19D	351B086
7C286	28	DIP	PROM	v	V23	190	1A0	351B086
7C287	28	DIP	PROM	ah,v	V24	190	1A1	351B086
7C291	24	DIP	PROM	–	V13	F2	AF	–
7C291	28	PLCC	PROM	–	V13	F2	B7	351B093
7C291A	24	DIP	PROM	v	V20	10C	0AF	–
7C292	24	DIP	PROM	–	V13	F2	AF	–
7C292A	24	DIP	PROM	v	V15	10C	0AF	–
7C293A	24	DIP	PROM	v	V15	10C	0AF	–
Electronic Arrays								
2708	24	DIP	EPROM	–	V07	21	27	–
2716	24	DIP	EPROM	–	V07	19	23	–
EXEL Microelectronics								
2804	24	DIP	EEPROM	–	V14	B7	82	–
2804A	24	DIP	EEPROM	–	V23	B7	82	–
2816A	24	DIP	EEPROM	–	V07	B7	23	–
2816A	28	PLCC	EEPROM	v	V23	0B7	10D	351B099
2864A	28	DIP	EEPROM	–	V07	C3	98	351B086
2864A	32	PLCC	EEPROM	–	V23	C3	5D	351B099
2865A	28	DIP	EEPROM	–	V11	C3	98	351B086
2865A	32	PLCC	EEPROM	–	V23	C3	5D	351B099
28C16A	24	DIP	EEPROM	–	V23	C3	96	–
46C15	24	DIP	EEPROM	–	V11	CD	21	–
46C16	24	DIP	EEPROM	–	V07	CD	21	–
93C46	8	DIP	EEPROM	v	V23	118	10E	351B120D

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
Fairchild Semiconductor								
2708	24	DIP	EPROM	–	V07	21	27	–
93417	16	DIP	PROM	–	V07	01	01	–
93427	16	DIP	PROM	–	V07	01	01	–
93436	16	DIP	PROM	–	V07	01	03	–
93438	24	DIP	PROM	–	V07	01	15	–
93446	16	DIP	PROM	–	V07	01	03	–
93448	24	DIP	PROM	–	V07	01	15	–
93450	24	DIP	PROM	–	V07	01	16	–
93451	24	DIP	PROM	–	V07	01	16	–
93452	18	DIP	PROM	–	V07	01	05	–
93453	18	DIP	PROM	–	V07	01	05	–
93510	24	DIP	PROM	–	V07	01	21	–
93511	24	DIP	PROM	–	V07	01	21	–
93L450	24	DIP	PROM	–	V07	01	16	–
93L451	24	DIP	PROM	–	V07	01	16	–
93Z451	24	DIP	PROM	–	V07	A4	16	–
93Z511	24	DIP	PROM	–	V07	A4	21	–
93Z665	24	DIP	PROM	–	V12	A0	3E	351B096
93Z667	24	DIP	PROM	–	V12	A0	3E	351B096
Fujitsu								
27128	28	DIP	EPROM	–	V08	45	51	351B086
27128A	28	DIP	EPROM	–	V11	93	51	351B086
2716	24	DIP	EPROM	–	V13	19	23	–
27256	28	DIP	EPROM	–	V11	93	32	351B086
2732	24	DIP	EPROM	–	V07	19	24	–
2732A	24	DIP	EPROM	–	V08	27	24	–
2764	28	DIP	EPROM	–	V08	45	33	351B086
27C1000	32	DIP	EPROM	b	V13	6C	CC	351B104/BD
27C1001	32	DIP	EPROM	b	V13	6C	CB	351B104/BD
27C1001	32	JLCC	EPROM	b	V20	6C	DE	351B104P/BP
27C1001	32	LCC	EPROM	b,w	V21	6C	DE	351B104P/BP
27C1024	40	DIP	EPROM	b,o	V11	6D	A8	351B095

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C1024	44	LCC	EPROM	b,q,ad	V21	6D	88	351B095P
27C1028	28	DIP	EPROM	b	V11	69	0D	351B107
27C128	28	DIP	EPROM	–	V08	45	51	351B086
27C128	32	LCC	EPROM	w	V20	45	C2	351B099
27C256	28	DIP	EPROM	–	V11	45	32	351B086
27C256	32	LCC	EPROM	w	V23	93	C3	351B099
27C256A	28	DIP	EPROM	–	V11	93	32	351B086
27C256A	32	LCC	EPROM	w	V20	93	C3	351B099
27C256H	28	DIP	EPROM	–	V11	93	32	351B086
27C32A	24	DIP	EPROM	–	V08	27	24	–
27C512	28	DIP	EPROM	a	V11	4B	A4	351B086
27C512	32	LCC	EPROM	a,w	V15	4B	C4	351B099
27C64	28	DIP	EPROM	–	V08	45	33	351B086
27C64	32	LCC	EPROM	w	V20	45	C1	351B099
28C64	28	DIP	EEPROM	–	V11	C3	98	351B086
28C65	28	DIP	EEPROM	–	V11	C3	98	351B086
7051	16	DIP	PROM	–	V07	78	02	–
7052	16	DIP	PROM	–	V07	78	01	–
7053	16	DIP	PROM	–	V07	78	03	–
7054	18	DIP	PROM	–	V07	78	05	–
7055	24	DIP	PROM	–	V07	78	69	–
7056	16	DIP	PROM	–	V07	78	02	–
7057	16	DIP	PROM	–	V07	78	01	–
7058	16	DIP	PROM	–	V07	78	03	–
7059	18	DIP	PROM	–	V07	78	05	–
7060	24	DIP	PROM	–	V07	78	69	–
7111	16	DIP	PROM	–	V07	68	02	–
7112	16	DIP	PROM	–	V07	68	02	–
7113/L	16	DIP	PROM	–	V11	68	01	–
7114/L	16	DIP	PROM	–	V11	68	01	–
7115	16	DIP	PROM	–	V07	68	03	–
7116	16	DIP	PROM	–	V07	68	03	–
7117	20	DIP	PROM	–	V07	68	08	–
7118	20	DIP	PROM	–	V07	68	08	–
7119	24	DIP	PROM	–	V07	68	14	–
7120	24	DIP	PROM	–	V07	68	14	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
7121	18	DIP	PROM	–	V11	68	05	–
7122	18	DIP	PROM	–	V11	68	05	–
7123	20	DIP	PROM	–	V11	68	09	–
7124	20	DIP	PROM	–	V11	68	09	–
7127	18	DIP	PROM	–	V11	68	06	–
7128	18	DIP	PROM	–	V11	68	06	–
7129	22	DIP	PROM	–	V11	68	A9	351B094
7130	22	DIP	PROM	–	V11	68	A9	351B094
7131	24	DIP	PROM	–	V11	68	16	–
7132	24	DIP	PROM	–	V11	68	16	–
7135	22	DIP	PROM	–	V11	68	AA	351B094
7136	22	DIP	PROM	–	V11	68	AA	351B094
7137	24	DIP	PROM	–	V11	68	21	–
7138	24	DIP	PROM	–	V11	68	21	–
7141	24	DIP	PROM	–	V11	68	63	–
7142	24	DIP	PROM	–	V11	68	63	–
7143	24	DIP	PROM	–	V11	68	67	–
7144	24	DIP	PROM	–	V11	68	67	–
7151	20	DIP	PROM	–	V07	68	53	–
7152	20	DIP	PROM	–	V07	68	53	–
71A38	24	DIP	PROM	v	V18	128	021	–
71C44	24	DIP	PROM	v	V18	128	067	–
71C46	28	DIP	PROM	v	V18	128	078	351B101
7225LA	24	DIP	PROM	–	V07	68	15	–
7226LA	24	DIP	PROM	–	V07	68	15	–
7226RA/RS	24	DIP	PROM	p	V17	68	B1	351B066
7231LA	24	DIP	PROM	–	V07	68	16	–
7232LA	24	DIP	PROM	–	V07	68	16	–
7232RA/RS	24	DIP	PROM	h	V17	68	B2	351B066
7237LA	24	DIP	PROM	–	V07	68	21	–
7238LA	24	DIP	PROM	–	V07	68	21	–
7238RA/RS	24	DIP	PROM	c	V17	68	77	351B066
7241LA	24	DIP	PROM	–	V07	68	63	–
7242LA	24	DIP	PROM	–	V07	68	63	–
8516	24	DIP	EPROM	–	V08	19	23	–
8518	24	DIP	EPROM	–	V08	21	27	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
8532	24	DIP	EPROM	–	V08	19	24	–
8742	40	DIP	MICRO	–	V07	50	57	351B070B
8742H/N	40	DIP	MICRO	–	V15	50	57	351B070B
8749H	40	DIP	MICRO	–	V07	50	57	351B070B
98A608A	68	CARD	EPROM	b,ai	V24	6C	CB	351B104/BD
98A609A	68	CARD	EPROM	b,ai	V24	6C	CB	351B104/BD
98A610A	68	CARD	EPROM	b,ai	V24	6C	CB	351B104/BD
GoldStar Co., Ltd.								
57HC64	24	DIP	EPROM	–	V14	2B	67	–
Harris								
6616	24	DIP	PROM	–	V20	88	75	–
6617	24	DIP	PROM	af	V20	89	75	–
6641	24	DIP	PROM	–	V20	40	47	–
6642	24	DIP	PROM	–	V20	3F	47	–
7602	16	DIP	PROM	–	V07	06	02	–
7603	16	DIP	PROM	–	V07	06	02	–
7608	24	DIP	PROM	–	V07	05	16	–
7610	16	DIP	PROM	–	V07	06	01	–
7611	16	DIP	PROM	–	V07	06	01	–
7616	24	DIP	PROM	–	V07	05	42	–
76160	24	DIP	PROM	–	V07	05	21	–
76161	24	DIP	PROM	–	V07	06	21	–
76165	20	DIP	PROM	–	V07	06	53	–
7620	16	DIP	PROM	–	V07	06	03	–
7621	16	DIP	PROM	–	V07	06	03	–
7629	24	DIP	PROM	–	V07	05	43	–
76320	24	DIP	PROM	–	V07	05	63	–
76321	24	DIP	PROM	–	V07	06	63	–
7640	24	DIP	PROM	–	V07	06	15	–
7641	24	DIP	PROM	–	V07	06	15	–
7642	18	DIP	PROM	–	V07	06	05	–
7642P	18	DIP	PROM	–	V07	05	38	–
7643	18	DIP	PROM	–	V07	06	05	–
7643P	18	DIP	PROM	–	V07	05	38	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
7644	16	DIP	PROM	–	V07	05	04	–
7647R	24	DIP	PROM	–	V07	05	79	351B068
7648	20	DIP	PROM	–	V07	05	09	–
7649	20	DIP	PROM	–	V07	06	09	–
76641	24	DIP	PROM	–	V07	06	67	–
7680/RP	24	DIP	PROM	–	V07	05	16	–
7681	24	DIP	PROM	–	V07	06	16	–
7681RP	24	DIP	PROM	–	V07	05	16	–
7684	18	DIP	PROM	–	V07	05	06	–
7684P	18	DIP	PROM	–	V07	05	06	–
7685	18	DIP	PROM	–	V07	06	06	–
7685P	18	DIP	PROM	–	V07	05	06	–
Hitachi								
25044	18	DIP	PROM	–	V07	74	05	–
25045	18	DIP	PROM	–	V07	74	05	–
25084	18	DIP	PROM	–	V07	74	06	–
25084S	18	DIP	PROM	–	V07	66	06	–
25085	18	DIP	PROM	–	V07	74	06	–
25085S	18	DIP	PROM	–	V07	66	06	–
25088	24	DIP	PROM	–	V07	74	16	–
25088S	24	DIP	PROM	–	V07	66	16	–
25089	24	DIP	PROM	–	V07	74	16	–
25089S	24	DIP	PROM	–	V07	66	16	–
25168	24	DIP	PROM	–	V07	74	21	–
25168S	24	DIP	PROM	–	V07	66	21	–
25169	24	DIP	PROM	–	V07	74	21	–
25169S	24	DIP	PROM	–	V07	66	21	–
27128A	28	DIP	EPROM	–	V08	93	51	351B086
27256	28	DIP	EPROM	–	V08	93	32	351B086
27512	28	DIP	EPROM	a	V08	4B	A4	351B086
27C101	32	DIP	EPROM	b	V11	8F	CB	351B104/BD
27C101A	32	DIP	EPROM	b	V22	8F	CB	351B104/BD
27C1024	40	DIP	EPROM	b,o	V13	8E	A8	351B095

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C1024	44	JLCC	EPROM	b,q	V21	8E	88	351B095P
27C256	28	DIP	EPROM	–	V08	93	32	351B086
27C256H	28	DIP	EPROM	v	V15	111	032	351B086
27C301	32	DIP	EPROM	b	V11	8F	CC	351B104/BD
27C301A	32	DIP	EPROM	b	V22	8F	CC	351B104/BD
27C4096	40	DIP	EPROM	b,o	V22	163	089	351B095
27C64	28	DIP	EPROM	–	V08	79	33	351B086
29C101	32	DIP	EEPROM	b	V24	19A	1AA	351B104/BD
462532	24	DIP	EPROM	–	V07	19	25	–
462716	24	DIP	EPROM	–	V07	19	23	–
462732	24	DIP	EPROM	–	V07	19	24	–
48016	24	DIP	EEPROM	–	V07	33	23	–
4827128	28	DIP	EPROM	–	V07	79	51	351B086
482732A	24	DIP	EPROM	–	V07	27	24	–
482764	28	DIP	EPROM	–	V07	79	33	351B086
58064	28	DIP	EEPROM	–	V08	D7	98	351B086
58C256	28	DIP	EEPROM	–	V22	C3	99	351B086
58C65	28	DIP	EEPROM	–	V13	C3	98	351B086
63701V0	40	DIP	MICRO	–	V11	93	CF	351B108
63705V0	40	DIP	MICRO	–	V11	93	D0	351B109
637B01V0	40	DIP	MICRO	–	V13	93	CF	351B108
Hughes Microelectronics Limited								
3004-1	24	DIP	EEPROM	–	V07	58	62	–
3004-2	24	DIP	EEPROM	–	V07	58	61	–
3008	24	DIP	EEPROM	–	V07	58	60	–
3104-1	24	DIP	EEPROM	–	V07	58	62	–
3104-2	24	DIP	EEPROM	–	V07	58	61	–
3108	24	DIP	EEPROM	–	V07	58	60	–
Hyundai Electronics Industries Co., Ltd.								
27C64	28	DIP	EPROM	–	V13	F8	33	351B086
93C46	8	DIP	EEPROM	v	V16	118	10E	351B120D

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
International CMOS Technology, Inc.								
27CX010	32	DIP	EPROM	b,v	V21	109	0CB	351B104/BD
27CX321	24	DIP	EPROM	x	V17	82	63	–
27CX322	24	DIP	EPROM	x	V17	82	63	–
27CX641	24	DIP	EPROM	–	V14	82	67	–
27CX642	24	DIP	EPROM	–	V14	82	67	–
93C46	8	DIP	EEPROM	v	V18	118	10E	351B120D
93C46A	8	DIP	EEPROM	v	V24	118	10E	351B120D
93C56A	8	DIP	EEPROM	v	V24	175	179	351B120D
93C66A	8	DIP	EEPROM	v	V24	175	17A	351B120D
Integrated Device Technology, Inc.								
78C16A	24	DIP	EEPROM	–	V15	C3	96	–
Intel Corporation								
27010	32	DIP	EPROM	b	V11	5C	CB	351B104/BD
27011	28	DIP	EPROM	b	V15	5C	C9	351B086
2704	24	DIP	EPROM	–	V07	21	26	–
2708	24	DIP	EPROM	–	V07	21	27	–
27128	28	DIP	EPROM	–	V07	79	51	351B086
27128A	28	DIP	EPROM	–	V07	93	51	351B086
27128A	32	PLCC	EPROM	–	V09	5C	C2	351B099
27128B	28	DIP	EPROM	–	V13	93	51	351B086
2716	24	DIP	EPROM	–	V07	19	23	–
27210	40	DIP	EPROM	b,o	V11	5F	A8	351B095
27210	44	JLCC	EPROM	b,q	V15	5F	88	351B095P
27210	44	PLCC	EPROM	b,q	V15	5F	88	351B095P
27256	28	DIP	EPROM	–	V07	93	32	351B086
2732	24	DIP	EPROM	–	V07	19	24	–
2732A	24	DIP	EPROM	–	V07	27	24	–
27512	28	DIP	EPROM	a	V07	4B	A4	351B086
27512	32	PLCC	EPROM	a	V13	5E	C4	351B099
27513	28	DIP	EPROM	a	V07	5B	5E	351B086
2758	24	DIP	EPROM	–	V07	19	22	–
2764	28	DIP	EPROM	–	V07	79	33	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
2764A	28	DIP	EPROM	–	V07	93	33	351B086
27960	44	JLCC	EPROM	v	V20	143	13F	351B121
27960	44	PLCC	EPROM	v	V20	143	13F	351B121
27C010	32	DIP	EPROM	b	V15	5C	CB	351B104/BD
27C010	32	PLCC	EPROM	b	V17	5C	DE	351B104P/BP
27C010A	32	DIP	EPROM	b,v	V22	160	0CB	351B104/BD
27C011	28	DIP	EPROM	b	V21	5C	C9	351B086
27C020	32	DIP	EPROM	b	V19	5C	F5	351B104/BD
27C020	32	PLCC	EPROM	b,v	V22	05C	12D	351B104P/BP
27C040	32	DIP	EPROM	b	V22	5C	F6	351B104/BD
27C100	32	DIP	EPROM	b	V21	5C	CC	351B104/BD
27C128	28	DIP	EPROM	–	V13	5C	51	351B086
27C128	32	PLCC	EPROM	–	V19	5C	C2	351B099
27C202	40	DIP	EPROM	b,o	V16	7E	DD	351B095
27C202	40	DIP	EPROM	b	V16	7E	DD	351B106D
27C202	44	JLCC	EPROM	b,o	V22	7E	AB	351B106P
27C202	44	PLCC	EPROM	b	V17	7E	AB	351B106P
27C203	40	DIP	EPROM	b,z	V16	A7	4C	351B106D
27C203	44	JLCC	EPROM	b,o	V22	A7	4D	351B106P
27C203	44	PLCC	EPROM	b,z	V17	A7	4D	351B106P
27C210	40	DIP	EPROM	b,o	V17	5F	A8	351B095
27C210	44	PLCC	EPROM	b	V21	5F	88	351B095P
27C213	40	DIP	EPROM	ab	V20	136	136	351B106D
27C220	40	DIP	EPROM	b,o	V18	5F	DF	351B095
27C220	44	PLCC	EPROM	b	V21	5F	EC	351B095P
27C240	40	DIP	EPROM	b,o	V18	5F	89	351B095
27C256	28	DIP	EPROM	–	V09	5C	32	351B086
27C256	32	PLCC	EPROM	–	V09	5C	C3	351B099
27C256A	28	DIP	EPROM	–	V19	5C	32	351B086
27C400	40	DIP	EPROM	v	V23	05F	172	351B123D
27C512	28	DIP	EPROM	a	V19	5E	A4	351B086
27C64	28	DIP	EPROM	–	V18	5C	33	351B086
27C64	32	PLCC	EPROM	–	V09	5C	C1	351B099
27F256	28	DIP	EPROM	v	V15	0A8	109	351B086
27F64	28	DIP	EPROM	–	V15	84	33	351B086
2815	24	DIP	EEPROM	–	V07	85	23	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
2816	24	DIP	EEPROM	–	V07	37	23	–
2816A	24	DIP	EEPROM	–	V07	A5	96	–
2817A	28	DIP	EEPROM	–	V07	BF	A2	351B086
2864A	28	DIP	EEPROM	–	V11	CC	98	351B086
28F010	32	DIP	EEPROM	v	V19	135	118	351B104/BD
28F010	32	PLCC	EEPROM	v	V19	135	12A	351B104P/BP
28F020	32	DIP	EEPROM	v	V23	135	170	351B104BD
28F020	32	PLCC	EEPROM	v	V23	135	177	351B104BP
28F256-P1	32	DIP	EEPROM	v	V15	113	10A	351B104/BD
28F256-P1	32	PLCC	EEPROM	v	V17	113	112	351B104P/BP
28F256-P2	32	DIP	EEPROM	v	V15	0A8	10A	351B104/BD
28F256-P2	32	PLCC	EEPROM	v	V17	0A8	112	351B104P/BP
28F256A	32	DIP	EEPROM	v	V22	135	10A	351B104/BD
28F256A	32	PLCC	EEPROM	v	V22	135	112	351B104P/BP
28F512	32	DIP	EEPROM	v	V19	135	117	351B104/BD
28F512	32	PLCC	EEPROM	v	V19	135	129	351B104P/BP
68C257	28	DIP	EPROM	–	V13	5C	E2	351B086
68C257	32	PLCC	EPROM	–	V15	5C	E3	351B099
68C257M	28	DIP	EPROM	–	V13	5C	E2	351B086
68C257M	32	PLCC	EPROM	–	V15	5C	E3	351B099
8704	24	DIP	EPROM	–	V07	21	26	–
8708	24	DIP	EPROM	–	V07	21	27	–
8741	40	DIP	MICRO	–	V07	56	59	351B070B
8741A	40	DIP	MICRO	–	V07	56	59	351B070B
8741AH	40	DIP	MICRO	r	V13	51	1B	351B070B
8742	40	DIP	MICRO	–	V07	50	57	351B070B
8742AH	40	DIP	MICRO	r	V13	51	3F	351B070B
8744	40	DIP	MICRO	–	V07	53	58	351B071
8744H	40	DIP	MICRO	–	V13	D5	58	351B071
8748	40	DIP	MICRO	–	V07	52	56	351B070B
8748H	40	DIP	MICRO	–	V07	50	56	351B070B
8749H	40	DIP	MICRO	–	V07	50	57	351B070B
8751	40	DIP	MICRO	–	V07	53	58	351B071
8751BH	40	DIP	MICRO	v,j	V17	05A	11C	351B103
8751BH	44	PLCC	MICRO	v,j	V18	05A	126	351B103P
8751H	40	DIP	MICRO	g	V07	D5	58	351B071

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
8751H	44	LCC	MICRO	g,w	V15	D5	D4	351B103P
8752BH	40	DIP	MICRO	j	V15	5A	0C	351B103
8752BH	44	PLCC	MICRO	g	V15	5A	0E	351B103P
8755A	40	DIP	MICRO	–	V07	47	55	351B072
87C256	28	DIP	EPROM	–	V11	5C	C8	351B086
87C257	28	DIP	EPROM	–	V13	5C	E2	351B086
87C257	32	PLCC	EPROM	–	V15	5C	E3	351B099
87C257I	28	DIP	EPROM	–	V13	5C	E2	351B086
87C257I	32	PLCC	EPROM	–	V15	5C	E3	351B099
87C51	40	DIP	MICRO	j	V12	5A	0B	351B103
87C51	44	PLCC	MICRO	j	V14	5A	74	351B103P
87C51FA	40	DIP	MICRO	j	V13	5A	4F	351B103
87C51FB	40	DIP	MICRO	j	V17	5A	73	351B103
87C51FC	40	DIP	MICRO	j,v,ac	V21	156	15E	351B122D
87C51FC	44	PLCC	MICRO	j,v,ac	V21	156	15F	351B122P
87C54	44	PLCC	MICRO	v,j	V23	156	19A	351B122P
87C64	28	DIP	EPROM	–	V18	5C	3A	351B086
87C64	32	PLCC	EPROM	–	V09	5C	C7	351B099
87C75PF	40	DIP	PE	v,y	V17	112	107	351B111D
87C75PF	44	PLCC	PE	v,y	V17	112	108	351B111P
P27128A	28	DIP	EPROM	–	V09	5C	51	351B086
P27256	28	DIP	EPROM	–	V09	5C	32	351B086
P2732A	24	DIP	EPROM	–	V07	4D	24	–
P27512	28	DIP	EPROM	a	V11	5E	A4	351B086
P2764	28	DIP	EPROM	–	V13	79	33	351B086
P2764A	28	DIP	EPROM	–	V09	5C	33	351B086
P27C256	28	DIP	EPROM	–	V09	5C	32	351B086
P8742AH	40	DIP	MICRO	r	V18	51	3F	351B070B
P8748H	40	DIP	MICRO	–	V15	50	56	351B070B
Intersil								
5600	16	DIP	PROM	–	V07	D4	02	–
5603A	16	DIP	PROM	–	V07	70	01	–
5604	16	DIP	PROM	–	V07	70	03	–
5610	16	DIP	PROM	–	V07	D4	02	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
5623	16	DIP	PROM	–	V07	70	01	–
5624	16	DIP	PROM	–	V07	70	03	–
6716	24	DIP	EPROM	–	V07	59	64	–
Lattice Semiconductor								
EE64K8	28	DIP	EEPROM	–	V13	C3	98	351B086
Microchip Technology, Inc./GI								
24C01/A	8	DIP	EEPROM	v	V24	120	18F	351B120D
24C02/A	8	DIP	EEPROM	v	V17	120	119	351B120D
24C04/A	8	DIP	EEPROM	v	V17	120	11A	351B120D
27256	28	DIP	EPROM	–	V14	5C	32	351B086
27C128	28	DIP	EPROM	v	V21	115	051	351B086
27C128	32	LCC	EPROM	v,w	V22	115	0C2	351B099
27C128	32	PLCC	EPROM	v	V21	115	0C2	351B099
27C256	28	DIP	EPROM	v	V21	115	032	351B086
27C256	32	LCC	EPROM	v,w	V22	115	0C3	351B099
27C256	32	PLCC	EPROM	v	V21	115	0C3	351B099
27C512	28	DIP	EPROM	a,v	V21	116	0A4	351B086
27C512	32	LCC	EPROM	a,v,w	V21	116	0C4	351B099
27C512	32	PLCC	EPROM	a,v	V21	116	0C4	351B099
27C513	28	DIP	EPROM	a	V14	5E	5E	351B086
27C515	28	DIP	EPROM	a	V14	5E	CA	351B086
27C64	28	DIP	EPROM	v	V21	115	033	351B086
27C64	32	LCC	EPROM	v,w	V22	115	0C1	351B099
27C64	32	PLCC	EPROM	v	V21	115	0C1	351B099
27HC1616	40	DIP	EPROM	v,o	V23	191	1A2	351B095
27HC191	24	DIP	EPROM	v	V21	115	021	–
27HC256	28	DIP	EPROM	v	V21	115	032	351B086
27HC291	24	DIP	EPROM	v	V21	115	021	–
27HC64	28	DIP	EPROM	v	V21	115	033	351B086
27HC641	24	DIP	EPROM	v	V21	115	067	–
28C04/A	24	DIP	EEPROM	–	V11	C4	82	–
28C04/A	32	PLCC	EEPROM	v	V23	0C4	18E	351B099
28C16/A	24	DIP	EEPROM	–	V11	C4	96	–
28C16/A	32	PLCC	EEPROM	v	V18	0C4	10D	351B099

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
28C17/A	28	DIP	EEPROM	–	V11	C4	A2	351B086
28C17/A	32	PLCC	EEPROM	v	V22	0C4	10D	351B099
28C256	28	DIP	EEPROM	s	V22	BA	99	351B086
28C64/A	28	DIP	EEPROM	–	V11	C4	98	351B086
28C64/A	32	LCC	EEPROM	w	V22	C4	5D	351B099
28C64/A	32	PLCC	EEPROM	–	V18	C4	5D	351B099
28CP64	28	DIP	EEPROM	–	V11	C4	98	351B086
28HC16	24	DIP	EEPROM	–	V11	C4	96	–
28HC17	28	DIP	EEPROM	–	V11	C4	A2	351B086
5716	24	DIP	EPROM	–	V07	83	23	–
5816	24	DIP	EPROM	–	V07	37	23	–
59C11	8	DIP	EEPROM	v	V22	123	11D	351B120D
85C72	8	DIP	EEPROM	v	V24	120	18F	351B120D
85C82	8	DIP	EEPROM	v	V24	120	119	351B120D
93C06	8	DIP	EEPROM	v	V24	118	178	351B120D
93C46	8	DIP	EEPROM	v	V22	118	10E	351B120D
Mikroelektronik								
2716	24	DIP	EPROM	–	V22	19	23	–
2732	24	DIP	EPROM	–	V22	19	24	–
555	24	DIP	EPROM	–	V22	21	27	–
Mitsubishi Electric Corporation								
2708	24	DIP	EPROM	–	V07	21	27	–
27128	28	DIP	EPROM	–	V07	79	51	351B086
2716	24	DIP	EPROM	–	V07	19	23	–
27256	28	DIP	EPROM	–	V11	93	32	351B086
2732	24	DIP	EPROM	–	V07	19	24	–
27512	28	DIP	EPROM	a	V11	4B	A4	351B086
2764	28	DIP	EPROM	–	V07	79	33	351B086
27C100	32	DIP	EPROM	b	V15	91	CC	351B104/BD
27C100	32	JLCC	EPROM	v,b	V21	091	127	351B104P/BP
27C100	32	PLCC	EPROM	v	V18	091	127	351B104P/BP
27C101	32	DIP	EPROM	b	V15	91	CB	351B104/BD
27C101	32	PLCC	EPROM	b	V20	91	DE	351B104P/BP

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C102	40	DIP	EPROM	b,o	V14	8E	A8	351B095
27C102	44	JLCC	EPROM	b,q	V24	8E	88	351B095P
27C102	44	PLCC	EPROM	b,q	V18	8E	88	351B095P
27C128	28	DIP	EPROM	–	V13	77	51	351B086
27C201	32	DIP	EPROM	b	V22	17E	0F5	351B104/BD
27C202	40	DIP	EPROM	b	V20	8E	DF	351B095
27C256	28	DIP	EPROM	–	V13	8C	32	351B086
27C256A	28	DIP	EPROM	–	V19	8C	32	351B086
27C401	32	DIP	EPROM	b	V22	5C	F6	351B104/BD
27C402	40	DIP	EPROM	b,o	V22	5F	89	351B095
27C512A	28	DIP	EPROM	a	V17	4B	A4	351B086
54700A	16	DIP	PROM	–	V07	B5	01	–
54701A	16	DIP	PROM	–	V07	B5	01	–
54730A	16	DIP	PROM	–	V07	B5	02	–
54731A	16	DIP	PROM	–	V07	B5	02	–
54740A	18	DIP	PROM	–	V07	B5	05	–
54741A	18	DIP	PROM	–	V07	B5	05	–
8748	40	DIP	MICRO	–	V07	52	56	351B070B
Mostek								
2716	24	DIP	EPROM	–	V07	19	23	–
Motorola, Inc.								
2532	24	DIP	EPROM	–	V07	19	25	–
2708	24	DIP	EPROM	–	V07	21	27	–
2716	24	DIP	EPROM	–	V07	19	23	–
2808	28	DIP	EEPROM	–	V07	81	72	351B086
2816	24	DIP	EEPROM	–	V07	43	23	–
2817	28	DIP	EEPROM	–	V07	81	71	351B086
2832	28	DIP	EEPROM	–	V07	81	70	351B086
67256	28	DIP	EPROM	–	V11	49	32	351B086
67259	28	DIP	EPROM	–	V11	49	32	351B086
6836E16	28	DIP	EEPROM	–	V07	2D	5A	351B086
68708	24	DIP	EPROM	–	V07	21	27	–
68732-0	24	DIP	EPROM	–	V14	25	44	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
68732-1	24	DIP	EPROM	–	V14	25	45	–
68764	24	DIP	EPROM	–	V14	25	29	–
68766	24	DIP	EPROM	–	V14	25	29	–
68769	24	DIP	EPROM	–	V14	25	29	–
76161	24	DIP	PROM	–	V07	05	21	–
76165	20	DIP	PROM	–	V07	05	53	–
7620	16	DIP	PROM	–	V07	05	03	–
7621	16	DIP	PROM	–	V07	05	03	–
7640	24	DIP	PROM	–	V07	05	15	–
7641	24	DIP	PROM	–	V07	05	15	–
7642	18	DIP	PROM	–	V07	05	05	–
7643	18	DIP	PROM	–	V07	05	05	–
7649	20	DIP	PROM	–	V07	05	09	–
7680	24	DIP	PROM	–	V07	05	16	–
7681	24	DIP	PROM	–	V07	05	16	–
7684	18	DIP	PROM	–	V07	05	06	–
7685	18	DIP	PROM	–	V07	05	06	–
TMS2716	24	DIP	EPROM	–	V07	23	28	–
National Semiconductor								
2532	24	DIP	EPROM	–	V07	19	25	–
2708	24	DIP	EPROM	–	V07	21	27	–
2716	24	DIP	EPROM	–	V07	19	23	–
2732	24	DIP	EPROM	–	V07	19	24	–
2758A	24	DIP	EPROM	–	V07	19	22	–
2758B	24	DIP	EPROM	–	V07	19	35	–
27C010	32	DIP	EPROM	b	V15	5C	CB	351B104/BD
27C010	32	PLCC	EPROM	b	V22	5C	DE	351B104P/BP
27C1024	40	DIP	EPROM	b,o	V16	5F	A8	351B095
27C128	28	DIP	EPROM	–	V07	5D	51	351B086
27C128B	28	DIP	EPROM	–	V17	E8	51	351B086
27C16	24	DIP	EPROM	–	V07	19	23	–
27C16B	24	DIP	EPROM	–	V16	5C	23	–
27C16H	24	DIP	EPROM	–	V07	BD	23	–
27C256	28	DIP	EPROM	–	V07	5D	32	351B086
27C256B	28	DIP	EPROM	–	V16	5C	32	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C32	24	DIP	EPROM	–	V07	19	24	–
27C32B	24	DIP	EPROM	–	V16	5C	24	–
27C32H	24	DIP	EPROM	–	V07	BD	24	–
27C512	28	DIP	EPROM	a	V07	4C	A4	351B086
27C512A	28	DIP	EPROM	a	V16	5E	A4	351B086
27C512A	32	PLCC	EPROM	a	V23	5E	C4	351B099
27C58A	24	DIP	EPROM	–	V07	19	22	–
27C58B	24	DIP	EPROM	–	V07	19	35	–
27C64	28	DIP	EPROM	–	V07	5D	33	351B086
27C64B	28	DIP	EPROM	–	V19	5C	33	351B086
27CP128	28	DIP	EPROM	–	V07	5D	BB	351B086
27CP256	28	DIP	EPROM	–	V11	4C	1E	351B086
27CP64	28	DIP	EPROM	–	V11	5D	1D	351B086
2816	24	DIP	EEPROM	–	V07	37	23	–
2864	28	DIP	EEPROM	–	V07	C7	A5	351B086
48F010	32	DIP	EEPROM	v	V18	10F	10C	351B104/BD
48F512	32	DIP	EEPROM	v	V18	10F	10B	351B104/BD
54LS471	20	DIP	PROM	–	V07	08	08	–
54S188	16	DIP	PROM	–	V07	08	02	–
54S287	16	DIP	PROM	–	V07	08	01	–
54S288	16	DIP	PROM	–	V07	08	02	–
54S387	16	DIP	PROM	–	V07	08	01	–
54S472	20	DIP	PROM	–	V07	08	09	–
54S473	20	DIP	PROM	–	V07	08	09	–
54S474	24	DIP	PROM	–	V07	08	15	–
54S475	24	DIP	PROM	–	V07	08	15	–
54S570	16	DIP	PROM	–	V07	08	03	–
54S571	16	DIP	PROM	–	V07	08	03	–
54S572	18	DIP	PROM	–	V07	08	05	–
54S573	18	DIP	PROM	–	V07	08	05	–
74LS471	20	DIP	PROM	–	V07	08	08	–
74S188	16	DIP	PROM	–	V07	08	02	–
74S287	16	DIP	PROM	–	V07	08	01	–
74S288	16	DIP	PROM	–	V07	08	02	–
74S387	16	DIP	PROM	–	V07	08	01	–
74S472	20	DIP	PROM	–	V07	08	09	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
74S473	20	DIP	PROM	–	V07	08	09	–
74S474	24	DIP	PROM	–	V07	08	15	–
74S475	24	DIP	PROM	–	V07	08	15	–
74S570	16	DIP	PROM	–	V07	08	03	–
74S571	16	DIP	PROM	–	V07	08	03	–
74S572	18	DIP	PROM	–	V07	08	05	–
74S573	18	DIP	PROM	–	V07	08	05	–
77S180	24	DIP	PROM	–	V07	08	16	–
77S181	24	DIP	PROM	–	V07	08	16	–
77S184	18	DIP	PROM	–	V07	08	06	–
77S185	18	DIP	PROM	–	V07	08	06	–
77S190	24	DIP	PROM	–	V07	08	21	–
77S191	24	DIP	PROM	–	V07	08	21	–
77S195	20	DIP	PROM	–	V07	08	53	–
77S280	24	DIP	PROM	–	V07	08	16	–
77S281	24	DIP	PROM	–	V07	08	16	–
77S290	24	DIP	PROM	–	V07	08	21	–
77S291	24	DIP	PROM	–	V07	08	21	–
77S295	24	DIP	PROM	–	V07	08	15	–
77S296	24	DIP	PROM	–	V07	08	15	–
77S321	24	DIP	PROM	–	V07	08	63	–
77S421	24	DIP	PROM	–	V11	08	63	–
77SR181	24	DIP	PROM	h	V07	08	66	–
77SR183	24	DIP	PROM	h	V13	08	66	–
77SR191	24	DIP	PROM	c	V13	08	77	351B066
77SR193	24	DIP	PROM	c	V13	08	77	351B066
77SR25	24	DIP	PROM	–	V07	08	65	–
77SR27	22	DIP	PROM	–	V07	08	85	351B067
77SR474	24	DIP	PROM	p	V07	08	81	–
77SR476	24	DIP	PROM	p	V07	08	81	–
77X288	16	DIP	PROM	–	V07	08	02	–
87C512A	28	DIP	EPROM	v	V17	0E9	115	351B086
87S180	24	DIP	PROM	–	V07	08	16	–
87S181	24	DIP	PROM	–	V07	08	16	–
87S184	18	DIP	PROM	–	V07	08	06	–
87S185	18	DIP	PROM	–	V07	08	06	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
87S190	24	DIP	PROM	–	V07	08	21	–
87S191	24	DIP	PROM	–	V07	08	21	–
87S195	20	DIP	PROM	–	V07	08	53	–
87S280	24	DIP	PROM	–	V07	08	16	–
87S281	24	DIP	PROM	–	V07	08	16	–
87S290	24	DIP	PROM	–	V07	08	21	–
87S291	24	DIP	PROM	–	V07	08	21	–
87S295	24	DIP	PROM	–	V07	08	15	–
87S296	24	DIP	PROM	–	V07	08	15	–
87S321	24	DIP	PROM	–	V07	08	63	–
87S421	24	DIP	PROM	–	V11	08	63	–
87SR181	24	DIP	PROM	h	V07	08	66	–
87SR183	24	DIP	PROM	h	V13	08	66	–
87SR191	24	DIP	PROM	c	V13	08	77	351B066
87SR193	24	DIP	PROM	c	V13	08	77	351B066
87SR25	24	DIP	PROM	–	V07	08	65	–
87SR27	22	DIP	PROM	–	V07	08	85	351B067
87SR474	24	DIP	PROM	p	V07	08	81	–
87SR476	24	DIP	PROM	p	V07	08	81	–
87X288	16	DIP	PROM	–	V07	08	02	–
9346	8	DIP	EEPROM	v	V16	118	10E	351B120D
93C06	8	DIP	EEPROM	v	V24	118	178	351B120D
93C46	8	DIP	EEPROM	v	V24	118	10E	351B120D
93C56	8	DIP	EEPROM	v	V24	175	179	351B120D
93C66	8	DIP	EEPROM	v	V24	175	17A	351B120D
93CS06	8	DIP	EEPROM	v	V24	118	178	351B120D
93CS46	8	DIP	EEPROM	v	V24	118	10E	351B120D
93CS66	8	DIP	EEPROM	v	V24	175	17A	351B120D
93Z665	24	DIP	PROM	–	V12	A0	3E	351B096
9716	24	DIP	EEPROM	–	V07	B3	23	–
9816A	24	DIP	EEPROM	–	V07	C3	96	–
9817	28	DIP	EEPROM	–	V07	BF	A2	351B086
9817A	28	DIP	EEPROM	–	V07	BF	A2	351B086
98C64	28	DIP	EEPROM	–	V07	9F	A7	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
NEC Electronics, Inc.								
27128	28	DIP	EPROM	–	V07	79	51	351B086
2716	24	DIP	EPROM	–	V07	19	23	–
27256	28	DIP	EPROM	–	V08	45	32	351B086
27256A	28	DIP	EPROM	–	V11	48	32	351B086
2732	24	DIP	EPROM	–	V07	19	24	–
2732A	24	DIP	EPROM	–	V07	27	24	–
27512	28	DIP	EPROM	a	V15	8A	A4	351B086
2764	28	DIP	EPROM	–	V07	79	33	351B086
27C1000	32	DIP	EPROM	b	V13	71	CC	351B104/BD
27C1000A	32	DIP	EPROM	b	V19	71	CC	351B104/BD
27C1001	32	DIP	EPROM	b	V13	71	CB	351B104/BD
27C1001A	32	DIP	EPROM	b	V17	71	CB	351B104/BD
27C1024	40	DIP	EPROM	b,o	V11	6F	A8	351B095
27C1024A	40	DIP	EPROM	b,o	V19	6F	A8	351B095
27C2001	32	DIP	EPROM	b	V15	71	F5	351B104/BD
27C256	28	DIP	EPROM	–	V08	45	32	351B086
27C256A	28	DIP	EPROM	–	V15	71	32	351B086
27C256A	32	LCC	EPROM	w	V23	71	C3	351B099
27C4000	40	DIP	EPROM	b,v	V24	06F	172	351B123D
27C4001	32	DIP	EPROM	b	V17	71	F6	351B104/BD
27C4096	40	DIP	EPROM	b,o	V21	6F	89	351B095
27C512	28	DIP	EPROM	a	V16	4E	A4	351B086
27C64	28	DIP	EPROM	–	V08	79	33	351B086
28C256	28	DIP	EEPROM	s	V21	BA	99	351B086
28C64	28	DIP	EEPROM	–	V13	C3	98	351B086
8741A	40	DIP	MICRO	–	V11	56	59	351B070B
8748	40	DIP	MICRO	–	V07	52	56	351B070B
8748H	40	DIP	MICRO	–	V11	50	56	351B070B
8749H	40	DIP	MICRO	–	V07	50	57	351B070B
8755A	40	DIP	MICRO	–	V07	47	55	351B072
B400	16	DIP	PROM	–	V11	72	02	–
B401	20	DIP	PROM	–	V11	72	08	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
B402	16	DIP	PROM	–	V11	72	03	–
B403	16	DIP	PROM	–	V11	72	01	–
B404	20	DIP	PROM	–	V11	72	09	–
B405	24	DIP	PROM	–	V07	72	15	–
B406	18	DIP	PROM	–	V11	72	05	–
B407	18	DIP	PROM	–	V11	72	06	–
B408	24	DIP	PROM	–	V07	72	16	–
B409	24	DIP	PROM	–	V07	72	21	–
B410	16	DIP	PROM	–	V11	72	02	–
B412	16	DIP	PROM	–	V11	72	03	–
B417	24	DIP	PROM	–	V07	72	16	–
B419	24	DIP	PROM	–	V07	72	42	–
B421	20	DIP	PROM	–	V11	72	08	–
B423	16	DIP	PROM	–	V11	72	01	–
B424	20	DIP	PROM	–	V11	72	09	–
B425	24	DIP	PROM	–	V11	72	15	–
B426	18	DIP	PROM	–	V11	72	05	–
B427	18	DIP	PROM	–	V11	72	06	–
B428	24	DIP	PROM	–	V11	72	16	–
B429	24	DIP	PROM	–	V11	72	21	–
B431A	20	DIP	PROM	–	V12	68	53	–
OKI Electric Industry Co., Ltd.								
2708	24	DIP	EPROM	–	V07	21	27	–
271000	32	DIP	EPROM	b	V21	5C	CB	351B104/BD
271024	32	DIP	EPROM	b	V22	5F	A8	351B095
27128	28	DIP	EPROM	–	V07	79	51	351B086
27128A	28	DIP	EPROM	–	V15	5C	51	351B086
2716	24	DIP	EPROM	–	V07	19	23	–
27256	28	DIP	EPROM	–	V11	5C	32	351B086
27512	28	DIP	EPROM	a	V11	5E	A4	351B086
2758	24	DIP	EPROM	–	V07	19	22	–
2764	28	DIP	EPROM	–	V11	79	33	351B086
2764A	28	DIP	EPROM	–	V15	5C	33	351B086
27C2000	32	DIP	EPROM	b	V22	5C	F5	351B104/BD

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C256H	28	DIP	EPROM	–	V21	5C	32	351B086
2816A	24	DIP	EEPROM	–	V13	B7	23	–
28C16A	24	DIP	EEPROM	–	V16	B7	23	–
28C64A	28	DIP	EEPROM	–	V22	C3	98	351B086
8755A	40	DIP	MICRO	–	V07	47	55	351B072
Panasonic								
27C256	28	DIP	EPROM	–	V22	5C	32	351B086
27C512	28	DIP	EPROM	a	V22	5E	A4	351B086
27C64A	28	DIP	EPROM	–	V22	5C	33	351B086
Raytheon								
29/39VP816	24	DIP	PROM	–	V13	7A	68	–
29600	20	DIP	PROM	–	V07	11	08	–
29601	20	DIP	PROM	–	V07	11	08	–
29602	20	DIP	PROM	–	V07	11	08	–
29603	20	DIP	PROM	–	V07	11	08	–
29610	16	DIP	PROM	–	V07	11	03	–
29611	16	DIP	PROM	–	V07	11	03	–
29612	16	DIP	PROM	–	V07	11	03	–
29613/A	16	DIP	PROM	–	V07	11	03	–
29620	20	DIP	PROM	–	V07	11	09	–
29621/A	20	DIP	PROM	–	V07	11	09	–
29622	20	DIP	PROM	–	V07	11	09	–
29623/A	20	DIP	PROM	–	V07	11	09	–
29624	24	DIP	PROM	–	V07	11	15	–
29625	24	DIP	PROM	–	V07	11	15	–
29626	24	DIP	PROM	–	V07	11	15	–
29627	24	DIP	PROM	–	V07	11	15	–
29630	24	DIP	PROM	–	V07	11	16	–
29630SM	24	DIP	PROM	–	V07	11	16	–
29631/A	24	DIP	PROM	–	V07	11	16	–
29631SM	24	DIP	PROM	–	V07	11	16	–
29632	24	DIP	PROM	–	V07	11	16	–
29632SM	24	DIP	PROM	–	V07	11	16	–
29633/A	24	DIP	PROM	–	V07	11	16	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
29633SM	24	DIP	PROM	–	V07	11	16	–
29634	24	DIP	PROM	–	V07	11	16	–
29635	24	DIP	PROM	–	V07	11	16	–
29636	24	DIP	PROM	–	V07	11	16	–
29637	24	DIP	PROM	–	V07	11	16	–
29640	20	DIP	PROM	–	V07	11	53	–
29641	20	DIP	PROM	–	V07	11	53	–
29642	20	DIP	PROM	–	V07	11	53	–
29643	20	DIP	PROM	–	V07	11	53	–
29650	18	DIP	PROM	–	V07	11	06	–
29651/A	18	DIP	PROM	–	V07	11	06	–
29652	18	DIP	PROM	–	V07	11	06	–
29653/A	18	DIP	PROM	–	V07	11	06	–
29660	16	DIP	PROM	–	V07	11	01	–
29661	16	DIP	PROM	–	V07	11	01	–
29662	16	DIP	PROM	–	V07	11	01	–
29663	16	DIP	PROM	–	V07	11	01	–
29671/A	24	DIP	PROM	–	V07	11	63	–
29671SM	24	DIP	PROM	–	V15	11	63	–
29673	24	DIP	PROM	–	V07	11	63	–
29673SM	24	DIP	PROM	–	V15	11	63	–
29680	24	DIP	PROM	–	V07	11	21	–
29680SM	24	DIP	PROM	–	V07	11	21	–
29681/A	24	DIP	PROM	–	V07	11	21	–
29681SM	24	DIP	PROM	–	V07	11	21	–
29682	24	DIP	PROM	–	V07	11	21	–
29682SM	24	DIP	PROM	–	V07	11	21	–
29683/A	24	DIP	PROM	–	V07	11	21	–
29683SM	24	DIP	PROM	–	V07	11	21	–
29771	24	DIP	PROM	–	V20	13C	063	–
29771SM	24	DIP	PROM	–	V20	13D	063	–
29773	24	DIP	PROM	–	V20	13C	063	–
29773SM	24	DIP	PROM	–	V20	13D	063	–
29791	24	DIP	PROM	–	V20	13C	067	–
29791DM	24	DIP	PROM	–	V20	13D	067	–
29793	24	DIP	PROM	–	V20	13C	067	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
29793DM	24	DIP	PROM	–	V20	13D	067	–
29VP832	24	DIP	PROM	–	V13	7A	63	–
29VP864	24	DIP	PROM	–	V13	7A	67	–
29VS816	24	DIP	PROM	–	V13	7A	68	–
29VS832	24	DIP	PROM	–	V13	7A	63	–
29VS864	24	DIP	PROM	–	V13	7A	67	–
39VP832	24	DIP	PROM	–	V13	7A	63	–
39VP864	24	DIP	PROM	–	V13	7A	67	–
39VS816	24	DIP	PROM	–	V13	7A	68	–
39VS832	24	DIP	PROM	–	V13	7A	63	–
39VS864	24	DIP	PROM	–	V13	7A	67	–
Ricoh Corporation								
27C256	28	DIP	EPROM	–	V11	93	32	351B086
27C32	24	DIP	EPROM	–	V11	27	24	–
27C64	28	DIP	EPROM	–	V11	79	33	351B086
5H32	24	DIP	EPROM	–	V07	27	24	–
687C64	24	DIP	EPROM	–	V11	D9	29	–
Rockwell International								
87C64	28	DIP	EPROM	–	V07	79	33	351B086
Samsung Semiconductor, Inc.								
2816A	24	DIP	EEPROM	–	V11	B7	23	–
2817A	28	DIP	EEPROM	–	V13	BF	A2	351B086
2864A	28	DIP	EEPROM	–	V11	C3	98	351B086
2865A	28	DIP	EEPROM	–	V13	C9	A6	351B086
2865AH	28	DIP	EEPROM	–	V13	C8	A6	351B086
28C16	24	DIP	EEPROM	–	V21	CA	23	–
28C17	24	DIP	EEPROM	–	V21	CA	A2	351B086
28C256	28	DIP	EEPROM	s	V20	BA	99	351B086
28C64	28	DIP	EEPROM	–	V21	C3	98	351B086
28C65	28	DIP	EEPROM	–	V21	C9	A6	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
SEEQ Technology, Incorporated								
27128	28	DIP	EPROM	–	V07	79	51	351B086
2764	28	DIP	EPROM	–	V07	79	33	351B086
27C256	28	DIP	EPROM	–	V07	93	32	351B086
2804	24	DIP	EEPROM	–	V13	B7	82	–
2816A	24	DIP	EEPROM	–	V07	B7	23	–
2816AH	24	DIP	EEPROM	–	V07	DF	23	–
2817A	28	DIP	EEPROM	–	V07	BF	A2	351B086
2817AH	28	DIP	EEPROM	–	V07	BF	A2	351B086
2864	28	DIP	EEPROM	–	V13	C9	A6	351B086
2864	32	PLCC	EEPROM	–	V13	C9	5F	351B099
2864H	28	DIP	EEPROM	–	V11	C9	A6	351B086
2864H	32	PLCC	EEPROM	–	V13	C9	5F	351B099
28C010	32	DIP	EEPROM	v	V17	0B8	110	351B104/BD
28C256	28	DIP	EEPROM	–	V13	B8	99	351B086
28C256	32	PLCC	EEPROM	–	V13	B8	ED	351B099
28C64	28	DIP	EEPROM	–	V13	B8	98	351B086
28C64	32	PLCC	EEPROM	–	V13	B8	5D	351B099
28C65	28	DIP	EEPROM	–	V13	B8	98	351B086
28C65	32	PLCC	EEPROM	–	V13	B8	5D	351B099
36C16	24	DIP	EEPROM	–	V14	9C	21	–
36C32	24	DIP	EEPROM	–	V14	9C	63	–
38C32	24	DIP	EEPROM	v	V21	13B	097	351B086
47F512	32	DIP	EPROM	v	V20	147	10B	351B104/BD
48F010	32	DIP	EEPROM	v	V20	10F	10C	351B104/BD
48F010	32	PLCC	EEPROM	v	V23	10F	11F	351B104P/BP
48F512	32	DIP	EEPROM	v	V20	10F	10B	351B104/BD
48F512	32	PLCC	EEPROM	v	V18	10F	11E	351B104P/BP
5133	28	DIP	EPROM	–	V07	79	33	351B086
5143	28	DIP	EPROM	–	V07	79	51	351B086
5213	24	DIP	EEPROM	–	V07	A5	96	–
5213H	24	DIP	EEPROM	–	V07	B9	96	–
52B13	24	DIP	EEPROM	–	V07	A5	96	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
52B13H	24	DIP	EEPROM	–	V07	B9	96	–
52B23	28	DIP	EEPROM	–	V07	AB	97	351B086
52B23H	28	DIP	EEPROM	–	V07	F1	97	351B086
52B33	28	DIP	EEPROM	–	V07	AB	98	351B086
52B33H	28	DIP	EEPROM	–	V07	F1	98	351B086
52B33H	32	LCC	EEPROM	w	V15	F1	5D	351B099
5516A	24	DIP	EEPROM	–	V07	B7	23	–
5516AH	24	DIP	EEPROM	–	V07	DF	23	–
5517A	28	DIP	EEPROM	–	V07	BF	A2	351B086
5517AH	28	DIP	EEPROM	–	V07	BF	A2	351B086
72720	40	DIP	MICRO	–	V13	FA	B8	351B097
SGS-Thomson Microelectronics								
2532	24	DIP	EPROM	–	V07	19	25	–
27128A	28	DIP	EPROM	–	V11	93	51	351B086
2716	24	DIP	EPROM	–	V07	19	23	–
27256	28	DIP	EPROM	–	V11	93	32	351B086
2732	24	DIP	EPROM	–	V07	19	24	–
2732A	24	DIP	EPROM	–	V13	27	24	–
27512	28	DIP	EPROM	a	V13	7F	A4	351B086
2764	28	DIP	EPROM	–	V11	79	33	351B086
2764A	28	DIP	EPROM	–	V11	93	33	351B086
27C1000	32	DIP	EPROM	b	V20	5C	CC	351B104/BD
27C1001	32	DIP	EPROM	b	V20	5C	CB	351B104/BD
27C1024	40	DIP	EPROM	b,o	V16	5F	A8	351B095
27C16	24	DIP	EPROM	–	V07	19	23	–
27C2001	32	DIP	EPROM	b	V23	5C	F5	351B104/BD
27C256	28	DIP	EPROM	–	V13	93	32	351B086
27C256	32	PLCC	EPROM	v	V21	9C	C3	351B099
27C256B	28	DIP	EPROM	–	V20	5C	32	351B086
27C32	24	DIP	EPROM	–	V11	19	24	–
27C4001	32	DIP	EPROM	b	V24	5C	F6	351B104/BD
27C4002	40	DIP	EPROM	b,o	V23	5F	89	351B095

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C512	28	DIP	EPROM	a	V22	144	0A4	351B086
27C64	28	DIP	EPROM	–	V11	93	33	351B086
27C64	32	PLCC	EPROM	–	V15	93	C1	351B099
27C64A	28	DIP	EPROM	–	V21	93	33	351B086
28F256	32	DIP	EEPROM	v	V24	113	10A	351B104/BD
59C11	8	DIP	EEPROM	v	V23	123	11D	351B120D
71180	24	DIP	PROM	–	V14	92	16	–
71181	24	DIP	PROM	–	V14	92	16	–
71190	24	DIP	PROM	–	V07	92	21	–
71191	24	DIP	PROM	–	V07	92	21	–
71280	24	DIP	PROM	–	V14	92	16	–
71281	24	DIP	PROM	–	V14	92	16	–
71290	24	DIP	PROM	–	V14	92	21	–
71291	24	DIP	PROM	–	V14	92	21	–
71320	24	DIP	PROM	–	V14	92	63	–
71321	24	DIP	PROM	–	V14	92	63	–
71640	24	DIP	PROM	–	V14	0A	67	–
71641	24	DIP	PROM	–	V14	0A	67	–
87C257	28	DIP	EPROM	–	V20	5C	E2	351B086
9346	8	DIP	EEPROM	v	V23	118	10E	351B120D
93C46	8	DIP	EEPROM	v	V23	118	10E	351B120D
T2716	24	DIP	EPROM	–	V07	19	23	–
T2764	28	DIP	EPROM	–	V07	35	33	351B086
Z86E11	40	DIP	MICRO	u	V14	0F	F9	351BZ8
Z86E21	40	DIP	MICRO	u	V14	0F	FA	351BZ8
Sharp Corporation								
571000	32	DIP	EPROM	v,b	V21	158	0CC	351B104/BD
571001	32	DIP	EPROM	v,b	V21	158	0CB	351B104/BD
57126	28	DIP	EPROM	–	V13	93	51	351B086
57127	28	DIP	EPROM	–	V13	93	51	351B086
57128	28	DIP	EPROM	–	V13	5C	51	351B086
57191	24	DIP	EPROM	–	V14	DC	21	–
57254	28	DIP	EPROM	–	V19	93	32	351B086
57255	28	DIP	EPROM	–	V21	93	32	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
57256	28	DIP	EPROM	–	V21	5C	32	351B086
5749	24	DIP	EPROM	–	V13	7C	67	–
57512	28	DIP	EPROM	a,v	V21	157	0A4	351B086
5762	28	DIP	EPROM	–	V13	93	33	351B086
5763	28	DIP	EPROM	–	V13	93	33	351B086
5764	28	DIP	EPROM	–	V13	5C	33	351B086
Signetics								
27C010	32	DIP	EPROM	b	V24	5C	CB	351B104/BD
27C210	40	DIP	EPROM	b,o	V19	5F	A8	351B095
27C210	44	PLCC	EPROM	b,q	V19	5F	88	351B095P
27C240	40	DIP	EPROM	b,o	V24	5F	89	351B095
27C256	28	DIP	EPROM	–	V16	5C	32	351B086
27C256	32	PLCC	EPROM	–	V18	5C	C3	351B099
27C512	28	DIP	EPROM	a	V18	5E	A4	351B086
27C512	32	PLCC	EPROM	a	V19	5E	C4	351B099
27C64A	28	DIP	EPROM	–	V16	5C	33	351B086
27C64A	32	PLCC	EPROM	–	V18	5C	C1	351B099
27HC641	24	DIP	EPROM	–	V15	87	67	–
27HC641	28	PLCC	EPROM	–	V15	87	9A	351B093
48F010	32	DIP	EEPROM	b,v	V22	10F	10C	351B104/BD
48F010	32	PLCC	EEPROM	b,v	V22	10F	11F	351B104P/BP
82123	16	DIP	PROM	–	V07	10	02	–
82HS187	24	DIP	PROM	h	V12	CE	5C	–
82HS187	28	PLCC	PROM	h,v	V21	0CE	168	351B093
82HS189	24	DIP	PROM	h	V12	CE	5C	–
82HS189	28	PLCC	PROM	h,v	V21	0CE	168	351B093
82HS191	24	DIP	PROM	–	V12	CE	21	–
82HS191	28	PLCC	PROM	–	V18	CE	8B	351B093
82HS195	20	DIP	PROM	–	V12	CF	53	–
82HS195	20	PLCC	PROM	–	V14	CE	8C	351B090
82HS321	24	DIP	PROM	–	V12	CF	63	–
82HS321	28	PLCC	PROM	–	V17	CF	8E	351B093
82HS641	24	DIP	PROM	–	V12	CE	67	–
82HS641	28	PLCC	PROM	–	V14	CE	9A	351B093
82LS135	20	DIP	PROM	–	V07	10	08	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
82LS135	20	PLCC	PROM	–	V21	10	7B	351B089
82LS137	18	DIP	PROM	–	V07	10	05	–
82LS180	24	DIP	PROM	–	V07	10	16	–
82LS181	24	DIP	PROM	–	V07	10	16	–
82PS180	24	DIP	PROM	–	V07	10	16	–
82PS181	24	DIP	PROM	–	V07	10	16	–
82S114	24	DIP	PROM	–	V07	AE	84	351B068
82S115	24	DIP	PROM	–	V07	AE	83	351B068
82S123	16	DIP	PROM	–	V07	10	02	–
82S123	20	PLCC	PROM	–	V15	10	6C	351B087
82S126	16	DIP	PROM	–	V07	10	01	–
82S126	20	PLCC	PROM	–	V21	10	6B	351B088
82S129	16	DIP	PROM	–	V07	10	01	–
82S129	20	PLCC	PROM	–	V20	10	6B	351B088
82S130	16	DIP	PROM	–	V07	10	03	–
82S130	20	PLCC	PROM	–	V18	10	6D	351B088
82S131	16	DIP	PROM	–	V07	10	03	–
82S131	20	PLCC	PROM	–	V18	10	6D	351B088
82S135	20	DIP	PROM	–	V07	10	08	–
82S135	20	PLCC	PROM	–	V21	10	7B	351B089
82S136	18	DIP	PROM	–	V07	10	05	–
82S137	18	DIP	PROM	–	V07	10	05	–
82S137	20	PLCC	PROM	–	V18	10	6E	351B088
82S140	24	DIP	PROM	–	V07	10	15	–
82S141	24	DIP	PROM	–	V07	10	15	–
82S141	28	PLCC	PROM	–	V18	10	7F	351B093
82S146	20	DIP	PROM	–	V07	10	09	–
82S147	20	DIP	PROM	–	V07	10	09	–
82S147	20	PLCC	PROM	–	V18	10	7C	351B089
82S180	24	DIP	PROM	–	V07	10	16	–
82S181	24	DIP	PROM	–	V07	10	16	–
82S181	28	PLCC	PROM	–	V18	10	8A	351B093
82S182	24	DIP	PROM	–	V07	10	16	–
82S183	24	DIP	PROM	–	V07	10	16	–
82S183	28	PLCC	PROM	–	V20	10	8A	351B093
82S184	18	DIP	PROM	–	V07	10	06	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
82S185	18	DIP	PROM	–	V07	10	06	–
82S185	20	PLCC	PROM	–	V21	10	6F	351B088
82S190	24	DIP	PROM	–	V07	10	21	–
82S191	24	DIP	PROM	–	V07	10	21	–
82S191	28	PLCC	PROM	–	V18	10	8B	351B093
82S195	20	DIP	PROM	–	V07	10	53	–
82S23	16	DIP	PROM	–	V07	10	02	–
82S23	20	PLCC	PROM	–	V21	10	6C	351B087
82S2708	24	DIP	PROM	–	V07	10	16	–
82S321	24	DIP	PROM	–	V07	10	63	–
82US123	16	DIP	PROM	–	V15	0E	02	–
82US123	20	PLCC	PROM	–	V18	0E	6C	351B087
82US23	16	DIP	PROM	–	V20	0E	02	–
82US23	20	PLCC	PROM	–	V18	0E	6C	351B087
87C51	40	DIP	MICRO	j	V16	5A	0B	351B103
87C51	44	JLCC	MICRO	j	V20	5A	74	351B103P
87C51	44	LCC	MICRO	j,ad	V19	5A	74	351B103P
87C51	44	PLCC	MICRO	j	V16	5A	74	351B103P
87C52	40	DIP	MICRO	j	V23	05A	04F	351B103
87C751	24	DIP	MICRO	v,j	V20	119	111	351B113D
SMOS Systems, Inc.								
27128H	28	DIP	EPROM	–	V11	79	51	351B086
27C256H	28	DIP	EPROM	–	V11	93	32	351B086
27C64H	28	DIP	EPROM	–	V11	79	33	351B086
Sony								
27C1000	32	DIP	EPROM	b	V22	5C	CC	351B104/BD
27C1001	32	DIP	EPROM	b	V22	5C	CB	351B104/BD
27C256	28	DIP	EPROM	–	V22	5C	32	351B086
27C512	28	DIP	EPROM	–	V22	5E	A4	351B086
Texas Instruments								
24S10	16	DIP	PROM	–	V07	13	01	–
24S166	20	DIP	PROM	–	V07	13	53	–
24S41	18	DIP	PROM	–	V07	13	38	–
24S81	18	DIP	PROM	–	V07	13	06	–

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
24SA10	16	DIP	PROM	–	V07	13	01	–
24SA166	20	DIP	PROM	–	V07	13	53	–
24SA41	18	DIP	PROM	–	V07	13	38	–
24SA81	18	DIP	PROM	–	V07	13	06	–
2508	24	DIP	EPROM	–	V07	19	22	–
2516	24	DIP	EPROM	–	V07	BD	23	–
2532	24	DIP	EPROM	–	V07	BD	25	–
2532A	24	DIP	EPROM	–	V12	63	25	–
2564	28	DIP	EPROM	–	V07	BD	30	351B086
2708	24	DIP	EPROM	–	V07	21	27	–
27128	28	DIP	EPROM	–	V07	79	51	351B086
27128A	28	DIP	EPROM	–	V11	93	51	351B086
27256	28	DIP	EPROM	–	V11	93	32	351B086
2732	24	DIP	EPROM	–	V07	BD	24	–
2732A-HS	24	DIP	EPROM	–	V07	63	24	–
2764	28	DIP	EPROM	–	V07	79	33	351B086
27C010	32	DIP	EPROM	v	V18	12B	0CB	351B104/BD
27C010A	32	DIP	EPROM	b	V24	193	0CB	351B104/BD
27C128	28	DIP	EPROM	–	V09	93	51	351B086
27C128	28	DIP	EPROM	v	V15	115	051	351B086
27C210	40	DIP	EPROM	b	V18	73	A8	351B095
27C256	28	DIP	EPROM	–	V09	93	32	351B086
27C256	28	DIP	EPROM	v	V15	115	032	351B086
27C291	24	DIP	EPROM	–	V13	E6	AF	–
27C291	28	PLCC	EPROM	–	V13	E6	B7	351B093
27C292	24	DIP	EPROM	–	V13	E6	AF	–
27C32	24	DIP	EPROM	v	V17	116	024	–
27C49	24	DIP	EPROM	v	V17	11A	031	–
27C512	28	DIP	EPROM	a	V13	4B	A4	351B086
27C512	28	DIP	EPROM	v	V15	116	0A4	351B086
27C64	28	DIP	EPROM	–	V13	93	33	351B086
27C64	28	DIP	EPROM	v	V15	115	033	351B086
27L08	24	DIP	EPROM	–	V07	21	27	–
27P32A	24	DIP	EPROM	–	V13	63	24	–
27PC128	28	DIP	EPROM	–	V14	93	51	351B086
27PC128	28	DIP	EPROM	v	V15	115	051	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27PC128	32	PLCC	EPROM	v	V15	115	0C2	351B099
27PC256	28	DIP	EPROM	–	V14	93	32	351B086
27PC256	28	DIP	EPROM	v	V15	115	032	351B086
27PC256	32	PLCC	EPROM	v	V15	115	0C3	351B099
27PC512	28	DIP	EPROM	a	V14	4B	A4	351B086
27PC512	28	DIP	EPROM	v	V15	116	0A4	351B086
27PC512	32	PLCC	EPROM	v	V15	116	0C4	351B099
27PC64	28	DIP	EPROM	v	V15	115	033	351B086
28L166	24	DIP	PROM	–	V07	13	21	–
28L22	20	DIP	PROM	–	V07	13	46	–
28L42	20	DIP	PROM	–	V07	13	09	–
28L45	24	DIP	PROM	–	V07	13	15	–
28L85	24	DIP	PROM	–	V07	13	16	–
28L86	24	DIP	PROM	–	V07	13	16	–
28LA22	20	DIP	PROM	–	V07	13	46	–
28P166	24	DIP	PROM	–	V07	13	21	–
28P42	20	DIP	PROM	–	V07	13	09	–
28P45	24	DIP	PROM	–	V07	13	15	–
28P85	24	DIP	PROM	–	V07	13	16	–
28S166	24	DIP	PROM	–	V07	13	21	–
28S2708	24	DIP	PROM	–	V07	13	16	–
28S42	20	DIP	PROM	–	V07	13	09	–
28S45	24	DIP	PROM	–	V07	13	15	–
28S46	24	DIP	PROM	–	V07	13	15	–
28S85	24	DIP	PROM	–	V07	13	16	–
28S86	24	DIP	PROM	–	V07	13	16	–
28SA166	24	DIP	PROM	–	V07	13	21	–
28SA42	20	DIP	PROM	–	V07	13	09	–
28SA46	24	DIP	PROM	–	V07	13	15	–
28SA86	24	DIP	PROM	–	V07	13	16	–
34L10	16	DIP	PROM	–	V09	A1	01	–
34L12	20	PLCC	PROM	–	V09	A1	6B	351B088
34L162	20	DIP	PROM	–	V09	A1	53	–
34L162	20	PLCC	PROM	–	V09	A1	8C	351B090
34L41	18	DIP	PROM	–	V09	A1	05	–
34L42	20	PLCC	PROM	–	V09	A1	6E	351B088

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
34R162	20	DIP	PROM	–	V09	A2	3B	–
34R162	20	PLCC	PROM	–	V09	A2	C6	351B090
34S10	16	DIP	PROM	–	V09	A1	01	–
34S12	20	PLCC	PROM	–	V09	A1	6B	351B088
34S162	20	DIP	PROM	–	V09	A1	53	–
34S162	20	PLCC	PROM	–	V09	A1	8C	351B090
34S41	18	DIP	PROM	–	V09	A1	05	–
34S42	20	PLCC	PROM	–	V09	A1	6E	351B088
34SA10	16	DIP	PROM	–	V09	A1	01	–
34SA12	20	PLCC	PROM	–	V09	A1	6B	351B088
34SA162	20	DIP	PROM	–	V09	A1	53	–
34SA162	20	PLCC	PROM	–	V09	A1	8C	351B090
34SA41	18	DIP	PROM	–	V09	A1	05	–
34SA42	20	PLCC	PROM	–	V09	A1	6E	351B088
34SR165	24	DIP	PROM	–	V09	A2	4E	351B073
34SR167	28	PLCC	PROM	–	V09	A2	C5	351B092
38L030	16	DIP	PROM	–	V09	A1	02	–
38L032	20	PLCC	PROM	–	V09	A1	6C	351B087
38L165	24	DIP	PROM	–	V09	A1	21	–
38L166	24	DIP	PROM	–	V09	A1	21	–
38L167	28	PLCC	PROM	–	V09	A1	8B	351B093
38L22	20	DIP	PROM	–	V09	A1	08	–
38L22	20	PLCC	PROM	–	V09	A1	7B	351B089
38L42	20	DIP	PROM	–	V09	A1	09	–
38L42	20	PLCC	PROM	–	V09	A1	7C	351B089
38L85	24	DIP	PROM	–	V09	A1	16	–
38L87	28	PLCC	PROM	–	V09	A1	8A	351B093
38R165	24	DIP	PROM	l	V09	A2	A3	–
38R167	28	PLCC	PROM	l	V09	A2	9E	351B093
38R85	24	DIP	PROM	k	V09	A2	86	–
38R87	28	PLCC	PROM	k	V09	A2	9C	351B093
38S030	16	DIP	PROM	–	V09	A1	02	–
38S032	20	PLCC	PROM	–	V09	A1	6C	351B087
38S165	24	DIP	PROM	–	V09	A1	21	–
38S166	24	DIP	PROM	–	V09	A1	21	–
38S167	28	PLCC	PROM	–	V09	A1	8B	351B093

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
38S22	20	DIP	PROM	–	V09	A1	08	–
38S22	20	PLCC	PROM	–	V09	A1	7B	351B089
38S42	20	DIP	PROM	–	V09	A1	09	–
38S42	20	PLCC	PROM	–	V09	A1	7C	351B089
38S85	24	DIP	PROM	–	V09	A1	16	–
38S87	28	PLCC	PROM	–	V09	A1	8A	351B093
38SA030	16	DIP	PROM	–	V09	A1	02	–
38SA032	20	PLCC	PROM	–	V09	A1	6C	351B087
38SA165	24	DIP	PROM	–	V09	A1	21	–
38SA166	24	DIP	PROM	–	V09	A1	21	–
38SA167	23	PLCC	PROM	–	V09	A1	8B	351B093
38SA22	20	DIP	PROM	–	V09	A1	08	–
38SA22	20	PLCC	PROM	–	V09	A1	7B	351B089
38SA42	20	DIP	PROM	–	V09	A1	09	–
38SA42	20	PLCC	PROM	–	V09	A1	7C	351B089
38SA85	24	DIP	PROM	–	V09	A1	16	–
38SA87	28	PLCC	PROM	–	V09	A1	8A	351B093
54/74LS478	24	DIP	PROM	–	V07	13	16	–
54/74S2708	24	DIP	PROM	–	V07	13	16	–
54/74S454	18	DIP	PROM	–	V07	13	06	–
54/74S455	18	DIP	PROM	–	V07	13	06	–
54/74S476	18	DIP	PROM	–	V07	13	38	–
54/74S477	18	DIP	PROM	–	V07	13	38	–
54/74S478	24	DIP	PROM	–	V07	13	16	–
54/74S479	24	DIP	PROM	–	V07	13	16	–
7742	40	DIP	MICRO	–	V11	57	1F	351B102
82S191B	24	DIP	PROM	–	V09	A1	21	–
87C257	28	DIP	EPROM	v	V20	115	0E2	351B086
TMS2716	24	DIP	EPROM	–	V07	23	28	–
Toshiba Corporation								
24128	28	DIP	EPROM	–	V11	79	51	351B086
24128A	28	DIP	EPROM	–	V11	5C	51	351B086
24256	28	DIP	EPROM	–	V11	45	32	351B086
24256A	28	DIP	EPROM	–	V11	5C	32	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
24512	28	DIP	EPROM	a	V13	5E	A4	351B086
2464	28	DIP	EPROM	–	V11	79	33	351B086
2464A	28	DIP	EPROM	–	V11	5C	33	351B086
27128	28	DIP	EPROM	–	V11	79	51	351B086
27128A	28	DIP	EPROM	–	V11	5C	51	351B086
27256	28	DIP	EPROM	–	V07	45	32	351B086
27256A	28	DIP	EPROM	–	V11	5C	32	351B086
27256B	28	DIP	EPROM	–	V15	5C	32	351B086
2732	24	DIP	EPROM	–	V07	19	24	–
27512	28	DIP	EPROM	a	V11	5E	A4	351B086
27512A	28	DIP	EPROM	a	V15	5E	A4	351B086
2764	28	DIP	EPROM	–	V11	79	33	351B086
2764A	28	DIP	EPROM	–	V11	5C	33	351B086
28257	28	DIP	EEPROM	v	V15	10E	032	351B086
321	24	DIP	EPROM	–	V07	21	26	–
322	24	DIP	EPROM	–	V07	21	27	–
323	24	DIP	EPROM	–	V07	19	23	–
54256A	28	DIP	EPROM	–	V13	5C	32	351B086
571000	32	DIP	EPROM	b	V11	5C	CB	351B104/BD
571000A	32	DIP	EPROM	b	V22	5C	CB	351B104/BD
571001	32	DIP	EPROM	b	V11	5C	CC	351B104/BD
571001A	32	DIP	EPROM	b	V24	5C	CC	351B104/BD
571024	40	DIP	EPROM	b,o	V14	5F	A8	351B095
57256	28	DIP	EPROM	–	V07	45	32	351B086
57256A	28	DIP	EPROM	–	V13	5C	32	351B086
574000	32	DIP	EPROM	v	V18	12E	0F6	351B104/BD
574200	40	DIP	EPROM	v	V23	169	172	351B123D
57512A	28	DIP	EPROM	a	V16	5E	A4	351B086
57H1000A	32	DIP	EPROM	b	V24	5C	CB	351B104/BD
57H1024	40	DIP	EPROM	b	V18	5F	A8	351B095
57H1025A	40	DIP	EPROM	b,o	V24	5F	A8	351B095
57H256	28	DIP	EPROM	–	V19	5C	32	351B086
58257A	28	DIP	EEPROM	v	V17	117	032	351B086
58257A-LV	28	DIP	EEPROM	v	V21	150	032	351B086
8755A	40	DIP	MICRO	–	V07	47	55	351B072
97208	32	DIP	EEPROM	v	V23	18D	198	351B104/BD

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
97218	32	DIP	EEPROM	v	V23	18D	18B	351B104/BD
VLSI Technology, Inc								
27C128	28	DIP	EPROM	–	V11	5D	51	351B086
27C256	28	DIP	EPROM	–	V11	5D	32	351B086
27C512	28	DIP	EPROM	a	V11	4C	A4	351B086
27C64	28	DIP	EPROM	–	V11	5D	33	351B086
28H64	28	DIP	EPROM	–	V07	C9	A6	351B086
Waferscale Integration, Inc.								
27C010L	32	DIP	EPROM	v	V21	11B	0CB	351B104/BD
27C010L	32	LCC	EPROM	v,w	V21	11B	0DE	351B104P/BP
27C010L	32	PLCC	EPROM	v	V21	11B	0DE	351B104P/BP
27C010R	32	DIP	EPROM	v	V18	11B	0CC	351B104/BD
27C040L	32	DIP	EPROM	b,v	V22	164	0F6	351B104/BD
27C040L	32	LCC	EPROM	v,w	V23	164	16D	351B104P/BP
27C128F	28	DIP	EPROM	–	V12	3C	51	351B086
27C128F	32	LCC	EPROM	w	V17	3C	C2	351B099
27C128L	28	DIP	EPROM	v	V21	11B	051	351B086
27C128L	32	JLCC	EPROM	v	V21	11B	0C2	351B099
27C128L	32	PLCC	EPROM	v	V21	11B	0C2	351B099
27C210L	40	DIP	EPROM	v	V21	15C	0A8	351B095
27C210L	44	PLCC	EPROM	v	V21	15C	088	351B095P
27C256F	28	DIP	EPROM	v	V17	124	032	351B086
27C256F	32	LCC	EPROM	v,w	V17	124	0C3	351B099
27C256L	28	DIP	EPROM	v	V21	11B	032	351B086
27C256L	32	LCC	EPROM	v,w	V21	11B	0C3	351B099
27C256L	32	PLCC	EPROM	v	V21	11B	0C3	351B099
27C512F	28	DIP	EPROM	v	V17	125	0A4	351B086
27C512L	28	DIP	EPROM	v	V21	11C	0A4	351B086
27C512L	32	LCC	EPROM	a,w,v	V21	11C	0C4	351B099
27C512L	32	PLCC	EPROM	v	V21	11C	0C4	351B099
27C64F	28	DIP	EPROM	–	V12	3C	33	351B086
27C64L	28	DIP	EPROM	v	V21	11B	033	351B086

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
27C64L	32	JLCC	EPROM	v	V21	11B	0C1	351B099
27C64L	32	PLCC	EPROM	v	V21	11B	0C1	351B099
57C128F	28	DIP	EPROM	–	V12	3C	51	351B086
57C128F	32	LCC	EPROM	w	V17	3C	C2	351B099
57C191	24	DIP	EPROM	–	V12	7B	21	–
57C191B	24	DIP	EPROM	–	V17	7B	21	–
57C191B	28	PLCC	EPROM	–	V18	7B	8B	351B093
57C191C	24	DIP	EPROM	v	V18	12D	021	–
57C256F	28	DIP	EPROM	v	V17	124	032	351B086
57C256F	32	LCC	EPROM	v,w	V17	124	0C3	351B099
57C257	40	DIP	EPROM	b,o	V14	1F	E1	351B095
57C257	44	LCC	EPROM	b,q,ad	V17	01F	113	351B095P
57C257	44	PLCC	EPROM	v	V18	01F	113	351B095P
57C291	24	DIP	PROM	–	V12	7B	21	–
57C291B	24	DIP	PROM	–	V17	7B	21	–
57C291BT	24	DIP	PROM	–	V19	7B	21	–
57C291CT	24	DIP	PROM	v	V18	12D	021	–
57C43	24	DIP	PROM	–	V12	7B	63	–
57C43B	24	DIP	PROM	–	V17	7B	63	–
57C43B	28	PLCC	PROM	–	V18	7B	8E	351B093
57C43BT	24	DIP	PROM	–	V19	7B	63	–
57C43C	24	DIP	PROM	v	V18	12D	063	–
57C45	24	DIP	PROM	v,c	V17	122	0B0	–
57C45T	24	DIP	PROM	v,c	V19	122	0B0	–
57C49	24	DIP	PROM	–	V12	3C	67	–
57C49B	24	DIP	PROM	–	V17	3C	67	–
57C49B	28	PLCC	PROM	–	V18	3C	9A	351B093
57C49BT	24	DIP	PROM	–	V19	3C	67	–
57C49C	24	DIP	PROM	v	V18	12D	067	–
57C51	28	DIP	PROM	–	V13	7B	78	351B101
57C51B	28	DIP	PROM	–	V17	7B	78	351B101
57C51BT	28	DIP	PROM	–	V19	7B	78	351B101
57C51C	28	DIP	PROM	v	V18	12D	078	351B101
57C64F	28	DIP	EPROM	–	V12	3C	33	351B086
57C64F	32	LCC	EPROM	w	V17	3C	C1	351B099
57C65	40	DIP	EPROM	b,o	V12	2C	E7	351B095

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
57C65	44	LCC	EPROM	q,v,ad	V19	02C	124	351B095P
57C71C	28	DIP	PROM	v	V23	12D	169	351B101
XICOR, Inc.								
2402	8	DIP	EEPROM	v	V19	120	119	351B120D
2404	8	DIP	EEPROM	v	V17	120	11A	351B120D
24C04	8	DIP	EEPROM	v	V17	120	11A	351B120D
24C16	8	DIP	EEPROM	v	V17	120	11B	351B120D
2804A	24	DIP	EEPROM	–	V11	B7	82	–
2816A	24	DIP	EEPROM	–	V11	B7	23	–
2816A	32	LCC	EEPROM	v,w	V20	0B7	10D	351B099
2816A	32	PLCC	EEPROM	v	V20	0B7	10D	351B099
2816B	24	DIP	EEPROM	–	V13	C3	96	–
2816B	32	LCC	EEPROM	w	V20	0C3	10D	351B099
2816B	32	PLCC	EEPROM	v	V18	0C3	10D	351B099
2816C	32	PLCC	EEPROM	v	V23	C3	10D	351B099
28256	28	DIP	EEPROM	s	V13	BA	99	351B086
28256	32	LCC	EEPROM	s,w	V19	BA	ED	351B099
28256	32	PLCC	EEPROM	s	V18	BA	ED	351B099
2864A	28	DIP	EEPROM	–	V11	C3	98	351B086
2864A	32	LCC	EEPROM	w	V18	C3	5D	351B099
2864A	32	PLCC	EEPROM	–	V13	C3	5D	351B099
2864B	28	DIP	EEPROM	–	V15	CA	98	351B086
2864B	32	LCC	EEPROM	w	V20	CA	5D	351B099
2864B	32	PLCC	EEPROM	–	V20	CA	5D	351B099
2864H	28	DIP	EEPROM	–	V18	CA	98	351B086
2864H	32	LCC	EEPROM	w	V21	CA	5D	351B099
28C256	28	DIP	EEPROM	s	V15	BA	99	351B086
28C256	32	LCC	EEPROM	w,s	V23	BA	ED	351B099
28C256B	28	DIP	EEPROM	s	V21	BA	99	351B086
28C64	28	DIP	EEPROM	p	V19	BA	98	351B086
28C64	32	LCC	EEPROM	w	V23	CA	5D	351B099
28C64	32	PLCC	EEPROM	–	V23	CA	5D	351B099
28C64B	28	DIP	EEPROM	p	V21	BA	98	351B086
M28C010	32	DIP	EEPROM	s,v	V20	0BA	110	351B104/BD

Device Part Number	Pins	Pkg. Type	Part Type	Foot-note	Version	Family Code	Pinout Code	Adapter
XILINX								
1736	8	DIP	PROM	–	V21	D3	EE	351B120D
1736A	8	DIP	PROM	v	V23	14F	0EE	351B120D
1765	8	DIP	PROM	v,ag	V24	167	16F	351B120D

FOOTNOTES

(a) This device cannot be programmed in either a System 19 or a 100a programmer.

(b) This device requires that you use a Model 29B programmer that has version V04 or later firmware. To display your 29B's firmware version, press SELECT B 2 START.

(c) The initialize word is located at device address 800H. The architecture fuse is located at device address 801H. To program the initialize word, enter the data at the first location following the main array data in RAM. To program the device to synchronous mode enter 01 at the second location following the main array data. To leave asynchronous, enter 00.

(d) The initialize word is located at device address 401H. The architecture word is located at device address 400H - consult the manufacturer's spec sheet for the correct pattern for setting the device to either asynchronous or synchronous mode. To program enter architecture word at first location following main array data in RAM, initialize word at second location.

(e) The initialize word is located at device address 801H. The architecture word is located at device address 800H - consult the manufacturer's spec sheet for the correct pattern for setting the device to either asynchronous or synchronous mode. To program enter architecture word at first location following main array data in RAM, initialize word at second location.

(f) The inialize word is located at device address 1001H. The device architecture word is located at device address 1000H - consult the manu- facturer's spec sheet for the correct pattern for setting the device to either asynchronous or synchronous mode. To program enter architecture word at first location following main array data in RAM, initialize word at second location.

(g) This device is a microcontroller with a security bit programming capability. Refer to setup information on the following pages concerning the use of select code C3.

(h) The initialize word is located at device address 400H. To program enter initialize word at first location following main array data in RAM>

(i) This device is a KEPROM. Refer to setup information on the following pages concerning the use of select code C3.

(j) This device is a microcontroller with XNOR array and security bit programming capability. Refer to setup information on the following pages concerning the use of select code C3.

(k) This device has initialize words at device address 400H to 40FH. Enter 16 initialize words after main array data RAM.

(l) This device has initialize words at device address 800H to 80FH. Enter 16 initialize words after main array data in RAM.

(m) The initialize word is located at device address 1000H. Enter initialize word after main array data in RAM.

(n) The initialize word is located at device address 800H. Enter initialize word after main array data in RAM.

(o) This device requires that you use a 715-0028-XXX cartridge with -XXX equal to -003 or later.

(p) The initialize word is located at device address 200H. Enter initialize word after main array data in RAM.

(q) This device requires that you use a 715-2000-XXX pinout cartridge with -XXX equal to -002 or later.

(r) This device is a microcontroller with user signature and security bit programming capability. Refer to setup information on the following pages concerning the use of select code C3.

(s) This device is an EEPROM with software data write protection programming capability. Refer to setup information on the following pages concerning the use of select code C3.

(t) The initialize word is located at device address 2000H. Enter initialize word after main array data in RAM. The architecture fuse is located at device address 2001. To leave asynchronous, enter 00 at the second location following the main array data. To program the device to synchronous mode, enter 01 at the second location following the main array data. To program the device to initialize mode, enter 02 at the second location following the main array data.

(u) This device is a microcomputer with 2 security fuses. Refer to setup information on the following pages concerning the use of select code C3.

(v) This device requires that you use a Model 29B programmer that has version V06 or later firmware. To display your 29B's firmware version, press SELECT B2 START.

(w) Requires spacer #615-1510-001 for the top cover of the device socket. This spacer can be obtained from the Data I/O Support Center.

(x) This device is a PROM with a programmable power-down option. Refer to setup information on the following pages concerning the use of select code C3.

(y) This device has special programmable registers that can be programmed by entering data at locations following the main array. The CLR register is located at device address 8000H. The ELR register is located at device address 8001H. The SFRLR register is located at device address 8002H. Refer to the manufacturer's spec sheet for the correct data pattern (leave all undefined data bits as "ls").

If the Eprom array and the SFR registers are programmed to be overlapped, the programmer will fill the overlapped section in RAM with zeroes.

(z) The initialize word is located at device address 4000H. The arch- itecture word is located at device address 4001H. To program the initialize word, enter the data at the first location following the main array data in RAM. To program the device to synchronous mode, enter 0001 at the second location following the main array data. To leave asynchronous, enter 0000.

(aa) The initialize word is located at device address 800H. The architecture fuse is located at device address 801H. To program the initialize word, enter the data at the first location following the main array data in RAM. To program the device to synchronous/asynchronous mode enter FC - FF at the second location following the main array data. Data other than FC - FF will result in a program fail error 22. Refer to the manufac- turers' spec sheet for details.

(ab) The architecture word is located at device address 10001. To program the device to synchronous mode enter 01 at the first location following the main array data. To leave asynchronous, enter 00.

(ac) This device is a microcontroller with XNOR array and security bit programming capability. Refer to setup information on the following pages concerning the use of select code C3.

(ad) Requires spacer #615-1511-001 for the top cover of the device socket. This spacer can be obtained from the Data I/O Support Center.

(ae) This device has several architecture bits contained in one byte at address $8000. Set the appropriate bits to logical '1's for programming desired features:

BIT POSITION	FUNCTION
#2	ALE polarity
#1	ALE enable
#0 (lsb)	SYNC enable (Cypress 7C277 only)

(af) The military version of the Harris 6617 is the HM6617, which requires a military reject count of one. Use select code CF for military programmimg specifications.

(ag) Addresses $2000-$2003 must be cleared to $00 for programming the RST polarity. Otherwise, they must be set to $FF.

(ah) This device has one architecture bit contained at address $10000. Set bit 0 to logical "1" for programming the SYNC enable feature.

(ai) This device is a memory card requiring Fujitsu adapter #98A-EAC-68. Eight 128K byte pages are accessed individually by bit switches on the adapter.

(aj) This device is a flash erase type eprom with several separately erasable blocks of memory. In order to prevent corruption of data, the user should avoid programming portions of the erasable blocks. If, for example, the user wishes to program 10 bytes at the beginning of the boot block; the Unipak will erase the entire 8k block if it first finds an illegal bit.

(aa) The initialize word is located at device address 800H. The architecture fuse is located at device address 801H. To program the initialize word, enter the data at the first location following the main array data in RAM. To program the device to synchronous/asynchronous mode enter FC - FF at the second location following the main array data. Data other than FC - FF will result in a program fail error 22. Refer to the manufac- turers' spec sheet for details.

(ab) The architecture word is located at device address 10001. To program the device to synchronous mode enter 01 at the first location following the main array data. To leave asynchronous, enter 00.

(ac) This device is a microcontroller with XNOR array and security bit programming capability. Refer to setup information on the following pages concerning the use of select code C3.

(ad) Requires spacer #615-1511-001 for the top cover of the device socket. This spacer can be obtained from the Data I/O Support Center.

(ae) This device has several architecture bits contained in one byte at address $8000. Set the appropriate bits to logical '1's for programming desired features:

BIT POSITION	FUNCTION
#2	ALE polarity
#1	ALE enable
#0 (lsb)	SYNC enable (Cypress 7C277 only)

(af) The military version of the Harris 6617 is the HM6617, which requires a military reject count of one. Use select code CF for military programmimg specifications.

(ag) Addresses $2000-$2003 must be cleared to $00 for programming the RST polarity. Otherwise, they must be set to $FF.

(ah) This device has one architecture bit contained at address $10000. Set bit 0 to logical "1" for programming the SYNC enable feature.

(ai) This device is a memory card requiring Fujitsu adapter #98A-EAC-68. Eight 128K byte pages are accessed individually by bit switches on the adapter.

(aj) This device is a flash erase type eprom with several separately erasable blocks of memory. In order to prevent corruption of data, the user should avoid programming portions of the erasable blocks. If, for example, the user wishes to program 10 bytes at the beginning of the boot block; the Unipak will erase the entire 8k block if it first finds an illegal bit.

Using Select Code C3 To Access Special Programming Options

The following devices have special programming capabilities that may be accessed via select code C3:

AMD 8751H (g)	ASA 27Cx321/2 (x)	Intel 8751H (g)	SGS Z86E11(u)
AMD 8753 (g)	ICT 27Cx321/2 (x)	Intel 8752BH (j)	SGS Z86E21 (u)
AMD 9761H (g)	Intel 8741AH (r)	Intel 87C51/FA/FB (j)	Signetics 87C751 (j)
ATMEL 28C256 (s)	Intel 8742AH (r)	Intel 87C51FC (ac)	Xicor 28256 (s)
ATMEL 28HC256 (s)	Intel 8751BH (j)	MCT 28C256 (s)	Xicor 28C256 (s)

Before using this select code, you must key in the device's family and pinout codes, which identify the device to UniPak 2B. For example, to select the AMD 8751H, press

[COPY] [DEVICE] [RAM] [START] and then press [5] [4] [5] [8]

Programming the "(g)" devices:

The key sequence to access options for the AMD 8751H, 8753, 9761H and the Intel 8751H is as follows: (Refer to Figure 1.)

1. Press [SELECT] ; the 29A/B displays

```
SELECT CODE ^
```

2. Press [C] [3] [START] ; the 29A/B displays

   ```
   FXX PYY OPTIONS
   ```

   or

   ```
   FXXX PYYY OPTIONS
   ```

   if it is a 29B, V06 or later.

NOTE

"XX/XXX" and "YY/YYY" in the display represent the family and pinout codes of the device you are programming.

3. Press [START] to enter the top-level menu for this feature.

4. There are three possibilities to select from: programming only the security fuse, programming the array, or doing both. Press [REVIEW] to scroll between these three options.

5. When the desired programming feature is displayed, press [START] to select that option. An asterisk will appear in the right-most display position. For example, if you select array programming and press [START] , the 29A/B will display

   ```
   PROG ARRAY ONLY *
   ```

6. Press [START] a second time to lock in the option. The 29A/B will display

   ```
   OPTIONS DONE **
   ```

Programming the "(j)" devices:

The key sequence to access options for the Intel 87C51 and 8752BH is as follows: (Refer to Figure 2.)

1. Press [SELECT] ; the 29A/B displays

   ```
   SELECT CODE ^
   ```

2. Press [C] [3] [START] ; the 29A/B displays

   ```
   FXX PYY OPTIONS
   ```

   or

   ```
   FXXX PYYY OPTIONS
   ```

   if it is a 29B, V06 or later.

   NOTES

   "XX/XXX" and "YY/YYY" in the display represent the family and pinout codes of the device you are programming.

3. Press [START] to enter the top-level menu for this feature.

4. There are four possibilities to select from:

   - the array
   - the XNOR array (32 byte or 16 byte (87C751) array above main array data in RAM)
   - the first security fuse bit
   - the second security fuse bit

   There are eight available combinations of the above four options. Use [REVIEW] to scroll between the available options.

5. When the desired programming feature is displayed, press the [START] key to select that option. An asterisk will appear in the right-most display position. For example, if you select programming of the array, the XNOR array and one security bit, and you press [START] , the 29A/B will display

   ```
   ARRAY,XNOR,BIT1*
   ```

6. Press [START] a second time to lock in the option. The 29A/B will display

   ```
   OPTIONS DONE   **
   ```

Programming the "(r)" devices:

The key sequence to access options for the Intel 8741AH and 8742AH is as follows: (Refer to Figure 3.)

1. Press [SELECT] ; the 29A/B displays

   ```
   SELECT CODE ^
   ```

2. Press [C] [3] [START] ; the 29A/B displays

   ```
   FXX PYY OPTIONS
   ```

   or

   ```
   FXXX PYYY OPTIONS
   ```

   if it is a 29B, V06 or later.

   NOTE

   "XX/XXX" and "YY/YYY" in the display represent the family and pinout codes of the device you are programming.

3. Press [START] to enter the top-level menu for this feature.

4. There are three possibilities

   - the array
   - the user signature
   - the security fuse bit

   There are four combinations of the above three options. Use [REVIEW] to scroll between the available options.

5. When the desired programming feature is displayed, press [START] to select that option. An asterisk will appear in the right-most display position. For example, if you select programming of the array, the user signature and the security bit, and you press [START], the 29A/B will display

   ```
   PROG ARRAY,SEC     *
   ```

Programming the "(s)" Devices:

The key sequence to access options for the Xicor 28256, ATMEL 28CH256, and ATMEL 28C256 is as follows: (Refer to Figure 4.)

1. Press [SELECT] ; the 29A/B displays

   ```
   SELECT CODE ^
   ```

2. Press [C] [3] [START] ; the 29A/B displays

   ```
   FXX PYY OPTIONS
   ```

   or

   ```
   FXXX PYYY OPTIONS
   ```

   if it is a 29B, V06 or later.

   NOTE

   "XX/XXX" and "YY/YYY" in the display represent the family and pinout codes of the device you are programming.

3. Press [START] to enter the top-level menu for this feature.

4. There are two possibilities

   - protect data
   - unprotect data

   There are two combinations of the above two options. Use [REVIEW] to scroll between the available options.

5. When the desired programming feature is displayed, press [START] to select that option. An asterisk will appear in the right-most display position. For example, if you select programming of the protect data, and you press [START] , the 29A/B will display

   ```
   PROTECT DATA*
   ```

Programming the "(u)" devices:

The key sequence to access options for the SGS Z86E11 or SGS Z86E21 is as follows: (Refer to figure 5.)

1. Press [SELECT] ; the 29A/B displays

   ```
   SELECT CODE ^
   ```

2. Press [C] [3] [START] ; the 29A/B displays

   ```
   FXX PYY OPTIONS
   ```

   or

   ```
   FXXX PYYY OPTIONS
   ```

   if it is a 29B, V06 or later.

   NOTE

   "XX/XXX" and "YY/YYY" in the display represent the family and pinout codes of the device you are programming.

3. Press [START] to enter the top-level menu for this feature.

4. There are three possibilities to select from:

   - the array
   - the first security fuse bit
   - the second security fuse bit

   There are seven available combinations of the above three options. Use [REVIEW] to scroll between the available options.

5. When the desired programming feature is displayed, press [START] to select that option. An asterisk will appear in the right-most display position. For example, if you select programming of the array, protection A and protection B, and you press [START] , the 29A/B will display

   ```
   ARRAY,PRTA,PRTB *
   ```

6. Press [START] a second time to lock in the option. The 29A/B will display

   ```
   OPTIONS DONE **
   ```

Programming the "(X)" Devices:

The key sequence to access options for the ICT 27CX321/22 is as follows: (Refer to figure 6.)

1. Press [SELECT] ; the 29A/B displays

   ```
   SELECT CODE ^
   ```

2. Press [C] [3] [START] ; the 29A/B displays

   ```
   FXX PYY OPTIONS
   ```

   or

   ```
   FXXX PYYY OPTIONS
   ```
   if it is a 29B, V06 or later.

   NOTE

   "XX/XXX" and "YY/YYY" in the display represent the family and pinout codes of the device you are programming.

3. Press [START] to enter the top-level menu for this feature.

4. There are two possibilities

   - the array
   - the powerdown option

   There are three combinations of the above two options. Use [REVIEW] to scroll between the available options.

5. When the desired programming feature is displayed, press [START] to select that option. An asterisk will appear in the right-most display position. For example, if you select programming of the powerdown only, and you press [START] , the 29A/B will display

   ```
   POWERDOWN ONLY*
   ```

Programming the "(ac)" devices:

The key sequence to access options for the Intel 87C51FC is as follows: (Refer to Figure 7.)

1. Press [SELECT] ; the 29A/B displays

   ```
   SELECT CODE ^
   ```

2. Press [C] [3] [START] ; the 29A/B displays

   ```
   FXX PYY OPTIONS
   ```

   or

   ```
   FXXX PYYY OPTIONS
   ```

   if it is a 29B, V06 or later.

NOTES

"XX/XXX" and "YY/YYY" in the display represent the family and pinout codes of the device you are programming.

3. Press [START] to enter the top-level menu for this feature.

4. There are five possibilities to select from:

   - the array
   - the XNOR array (64 byte array above main array data in RAM)
   - the first security fuse bit
   - the second security fuse bit
   - the third security fuse bit

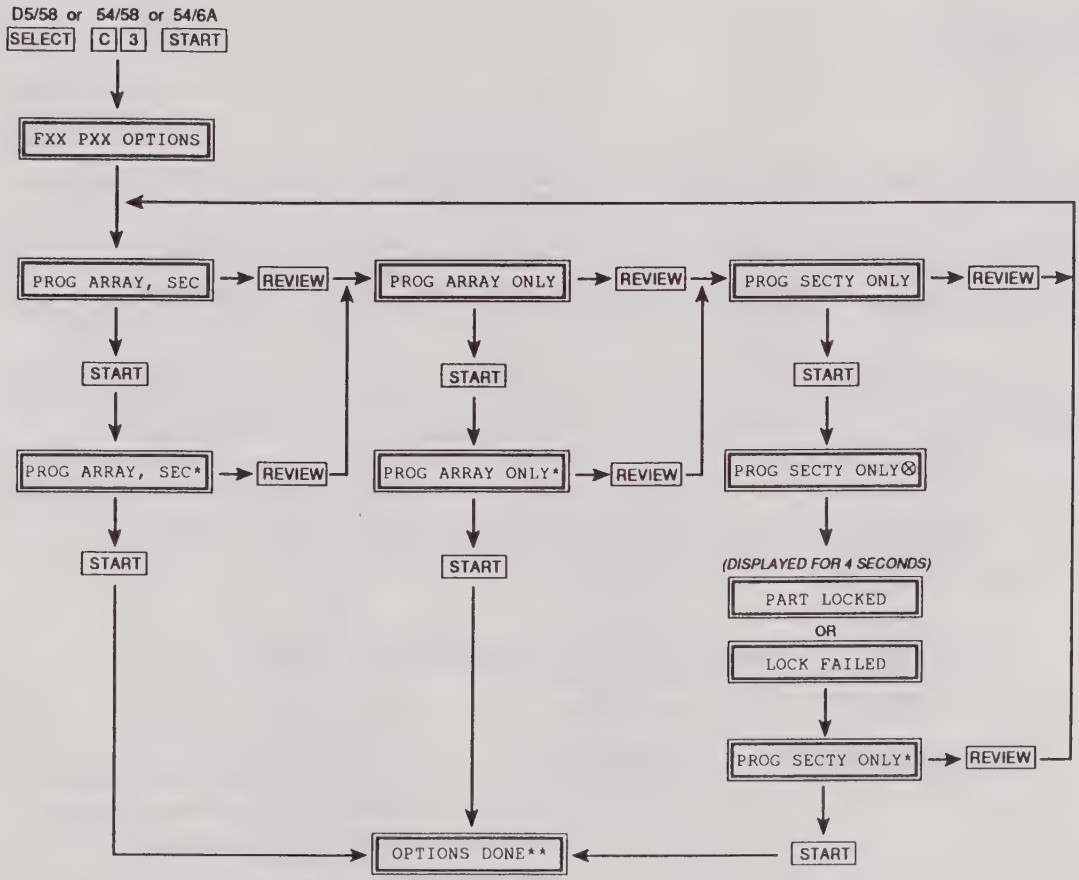
   There are ten available combinations of the above five options. Use [REVIEW] to scroll between the available ten options.

5. When the desired programming feature is displayed, press the [START] key to select that option. An asterisk will appear in the right-most display position. For example, if you select programming of the array, the XNOR array and one security bit, and you press [START] , the 29A/B will display

   ```
   ARRAY,XNOR,BIT1*
   ```

6. Press [START] a second time to lock in the option. The 29A/B will display

   ```
   OPTIONS DONE   **
   ```



NOTES

* Indicates execution of headings is complete.

A2 value is the same as that displayed in A1. Press REVIEW to increment A1 value.

095-0436-001

Figure 1. Security Bit Programming

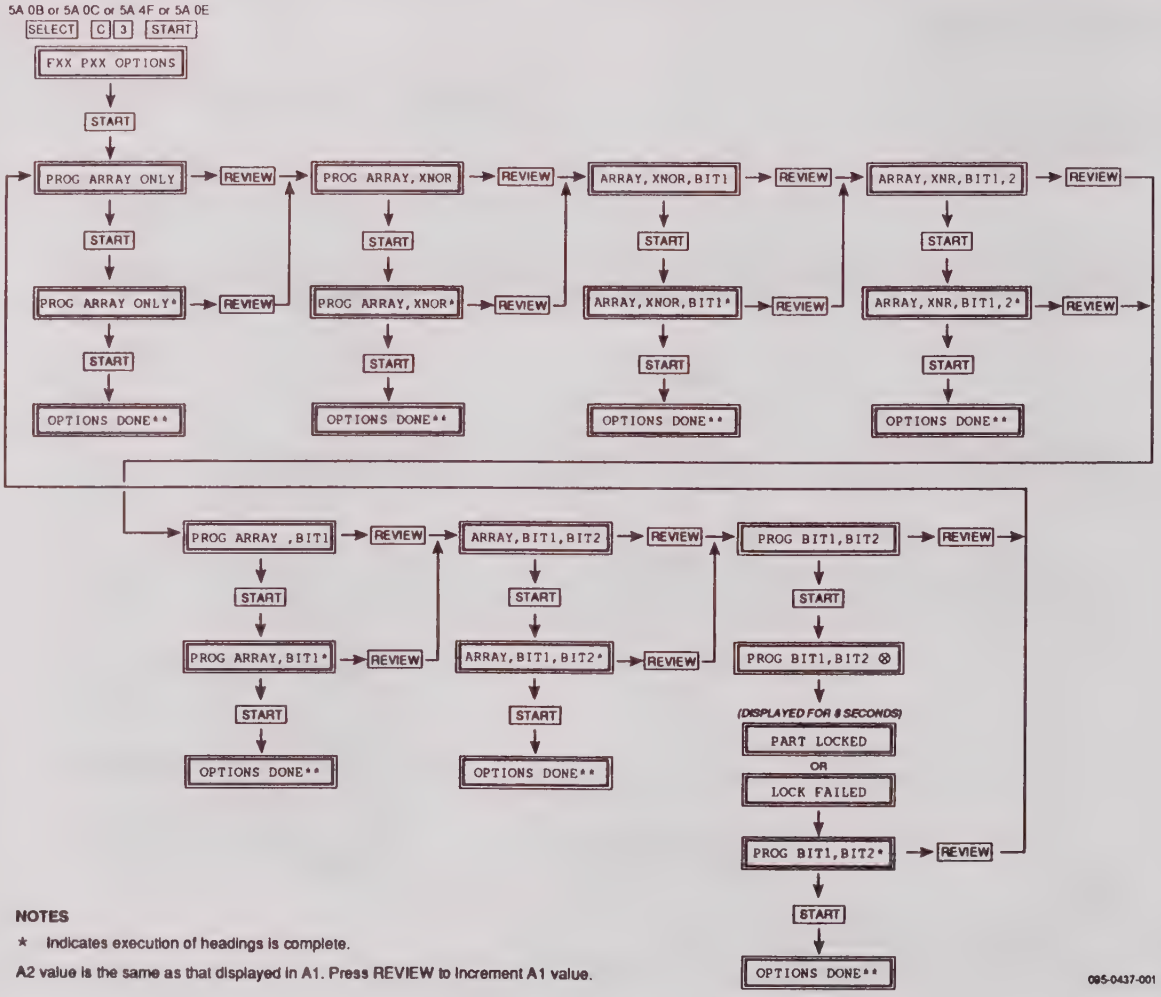


Figure 2. Intel 87C51 and 8752BH Security Programming

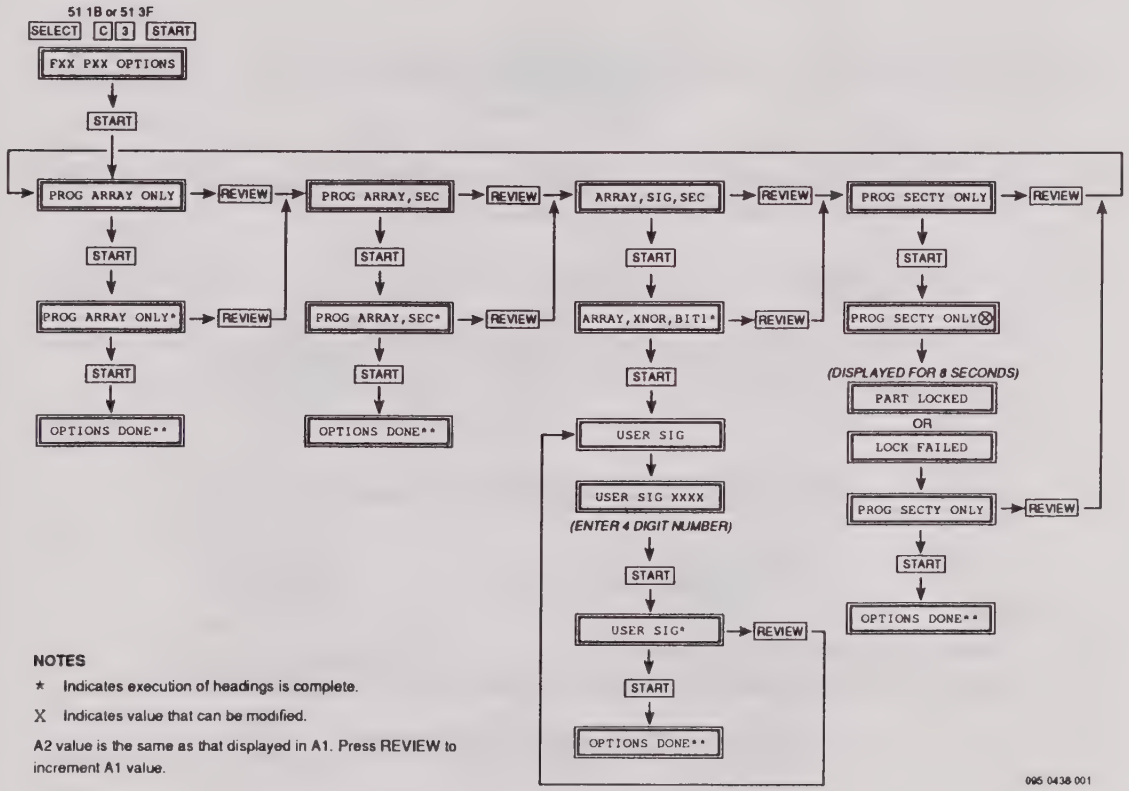
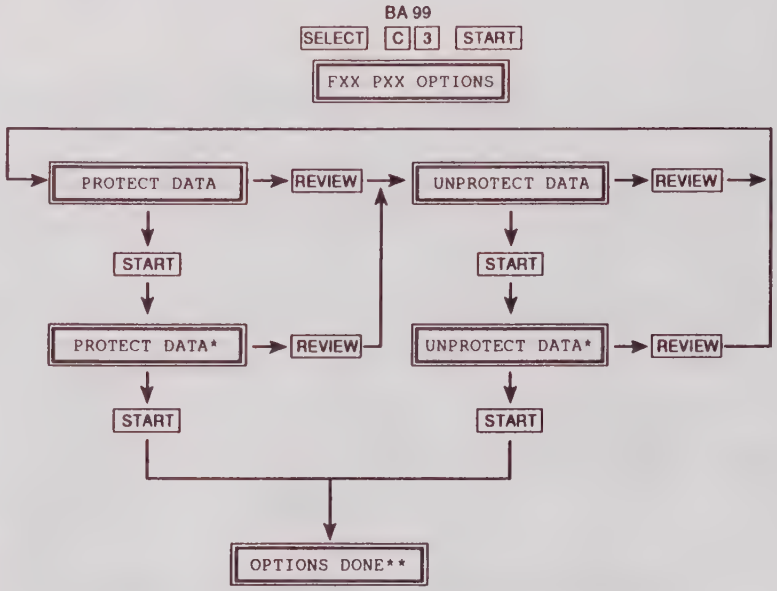


Figure 3. Intel 8741AH and 8742AH Security Programming



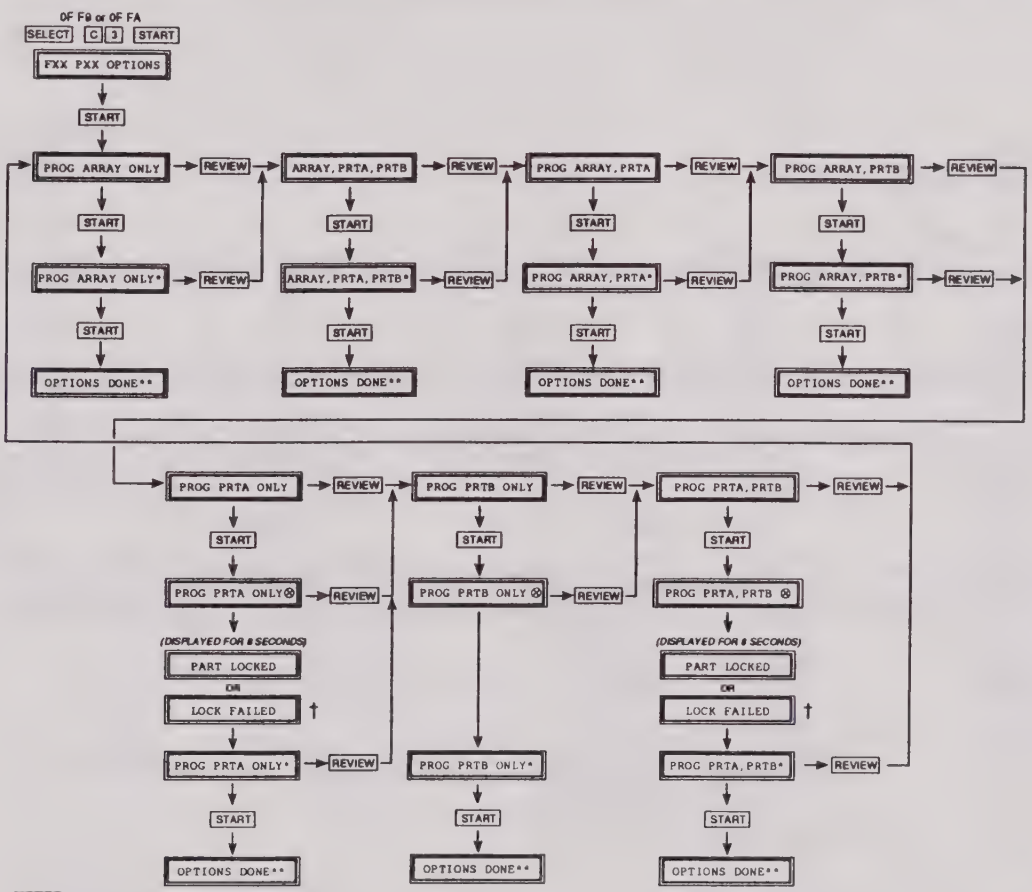
NOTES

* Indicates execution of headings is complete.

A2 value is the same as that displayed in A1. Press REVIEW to increment A1 value.

095-0439-001

Figure 4. Xicor 28256 Software Data Protection



NOTES

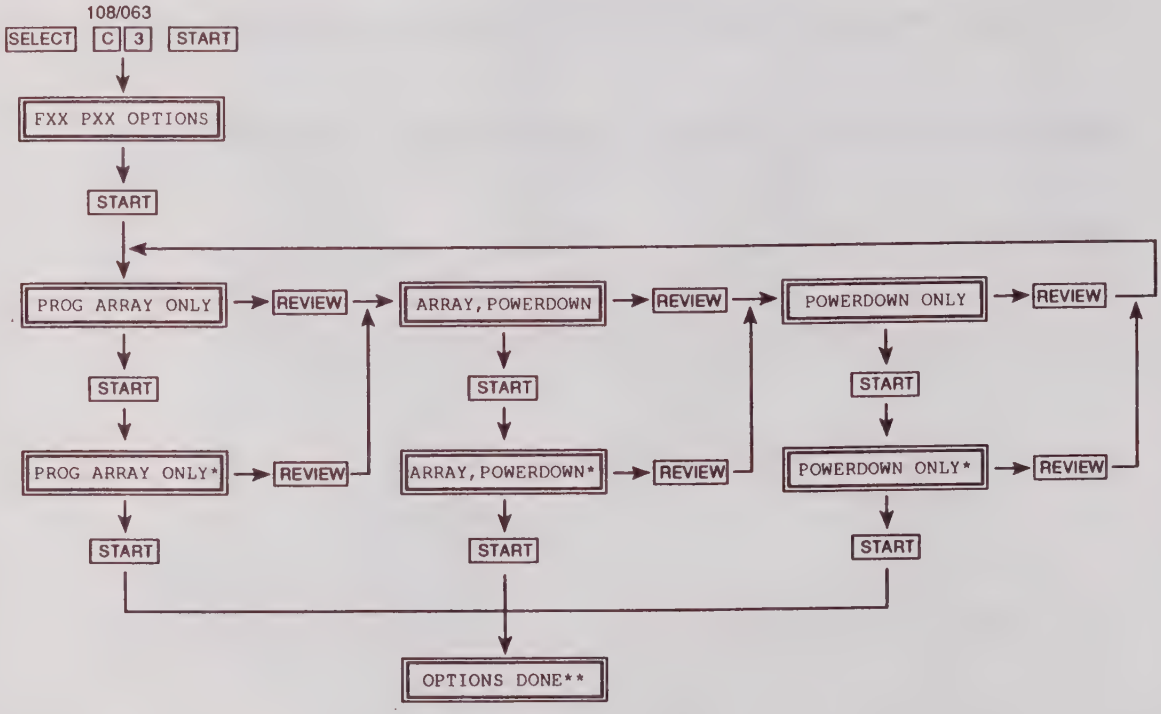
* Indicates execution of headings is complete.

† The "PART LOCKED" display applies only to Protection A (PRTA). It shows that the protection was programmed and verified. Protection B (PRTB) cannot be functionally verified by the programmer so it will be up to the user to test.

A2 value is the same as that displayed in A1. Press REVIEW to increment A1 value.

095-0440-001

Figure 5. SGS Z86E11 or SGS Z86E21 Security Programming



NOTES

* Indicates execution of headings is complete.

A2 value is the same as that displayed in A1. Press REVIEW to increment A1 value.

095-0441-001

Figure 6. ICT 27CX321/22 Powerdown Option Programming

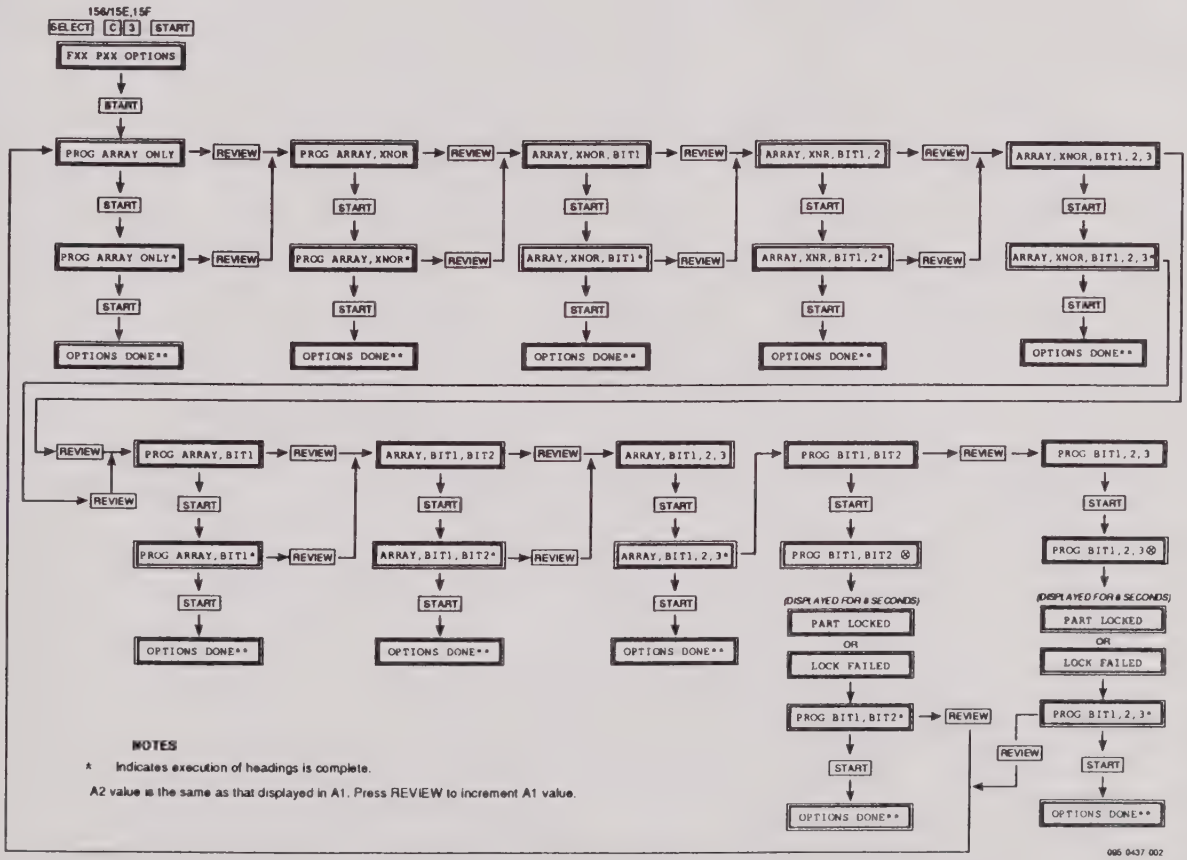


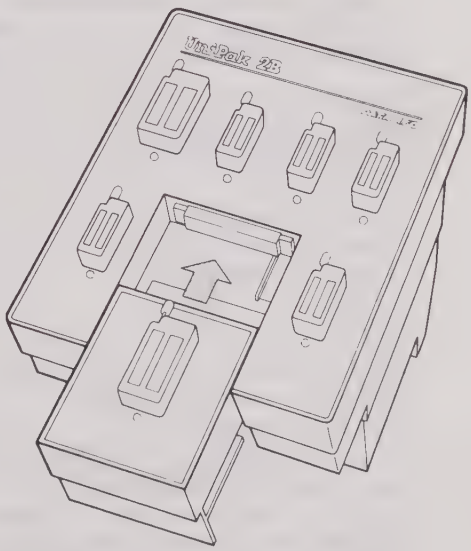
Figure 7. Intel 87C51FC Security Programming

Getting Started

This section of the manual describes a sample programming session with your UniPak 2B Programming Module. The procedure described is for operation with a Model 29A/B programmer; refer to your programmer manual for specific key sequences using a System 19 or 100A programmer.

Installation

Before actual programming begins, you need to install a pinout cartridge and then install the UniPak 2B into the programmer. Programming Module installation is discussed in your programmer's manual. To install an optional pinout cartridge, do the following.



CAUTION

Always wear a grounded wrist strap when operating the equipment to prevent the possibility of damage from electrostatic discharge.

1. Slide the cartridge along the guides and into the UniPak 2B's receptacle (see figure).
2. Press the cartridge into the connector until it locks in place.

CAUTION

Always hold the UniPak 2B by the chassis when carrying it. Never transport the UniPak 2B by holding onto the pinout cartridge; if it slips out while you are carrying it and the unit drops, serious damage could result.

Programming

The following steps describe how to program a 2764 part using a master device (a part that has been previously programmed and is used as a "master" to program other parts). This procedure assumes that the UniPak 2B is installed in the programmer. For more details on device programming, see your programmer's manual.

CAUTION

Do not operate the UniPak 2B without a pinout cartridge installed. Accidentally touching the exposed connector pins with a metal object, such as a screwdriver, could short out the unit.

1. Make sure all the device sockets are empty.
2. Power-up the programmer.
3. Press [COPY] [DEVICE] [RAM] [START]

   to prepare the programmer to transfer the master device data to the programmer's data RAM. The programmer will display

   FAM ∧ 00 PIN 00

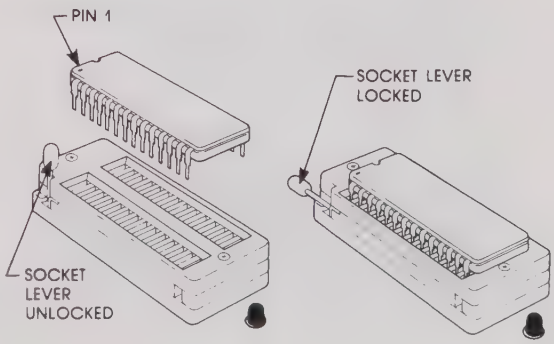
4. Press [7] [9] [3] [3]

   the family/pinout code for the 2764 part. The programmer will then display

   FAM ∧ 79 PIN ∧ 33

5. Lift up the lever on the socket that has an illuminated LED below it (see figure). Line up pin 1 of the device so that it is nearest the lever and set the device into the socket. Press down on the lever to lock the device in place.

   Note: Orient LCC devices according to the drawing to the left of the LCC socket.



6. Press [START]. The programmer will display

   LOADING DEVICE ☐
   LOAD DONE XXXX

7. Lift up the socket lever and remove the master device from the socket. The master device data is now transferred to RAM. The next part of the procedure transfers that data to the blank device.
8. Press [COPY] [RAM] [DEVICE] [START]

   to prepare the programmer to transfer the data to the blank device. The programmer will display

   FAM ∧ 79 PIN ∧ 33

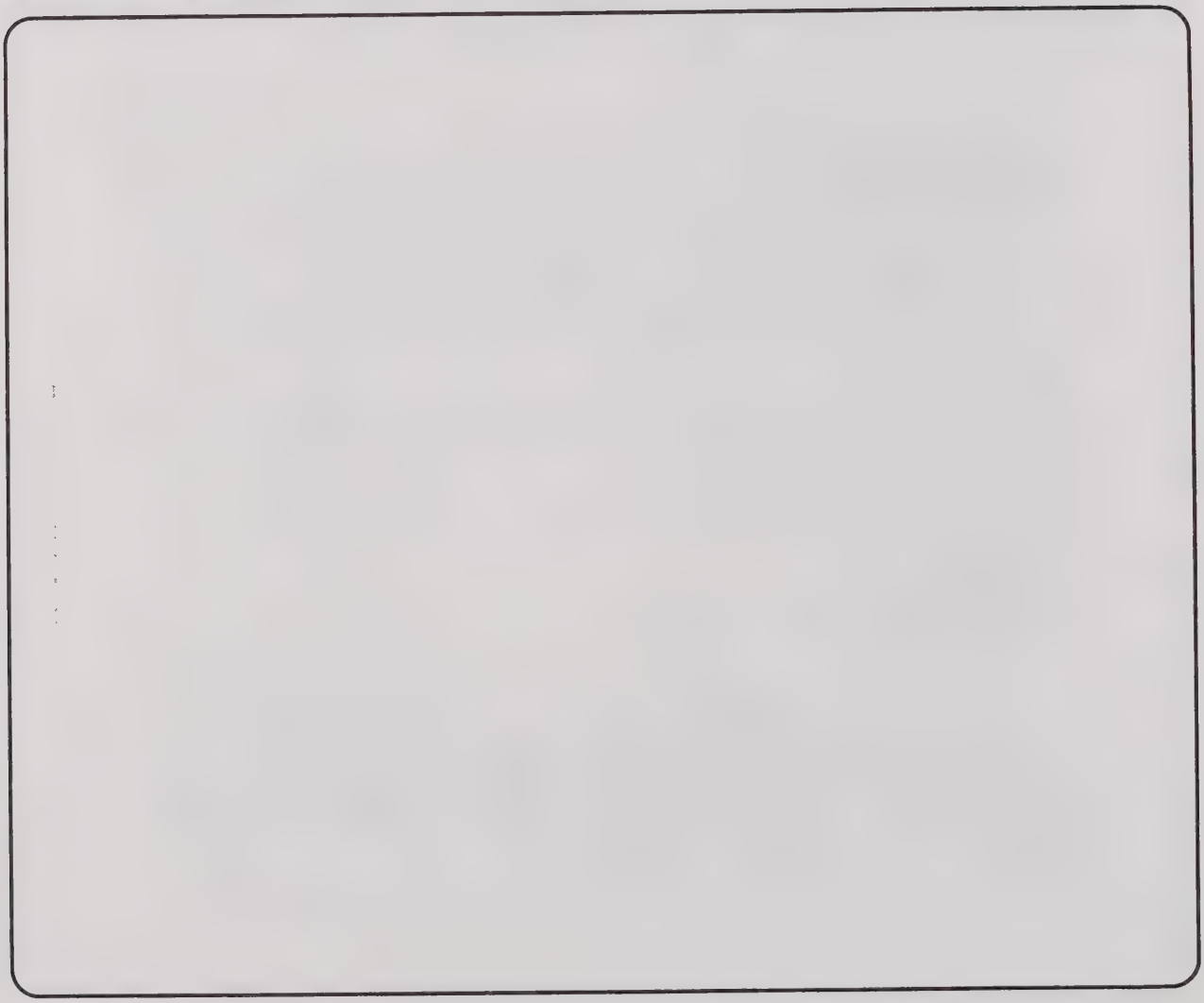
9. Lift up the lever on the socket that has an illuminated LED below it (see figure). Line up pin 1 of the blank device so that it is nearest the lever and set the device into the socket. Press down on the lever to lock the device in place.
10. Press [START]. The programmer will display

    TEST DEVICE ☐
    PROGRAM DEVICE ☐
    VERIFY DEVICE ☐
    PRG DONE 01 XXXX

    NOTE

    "XXXX" is the device's sumcheck; the hexadecimal sum of all the bytes in the device. The number displayed should match the sumcheck displayed during step 6 of this procedure.

11. Lift up the socket lever and remove the device from the socket. The device is now programmed.



The UniPak 2B offers special functions that are accessed by keying in two digit hexadecimal codes. These functions are not required for normal operation of the UniPak 2B. After you have keyed in a code and pressed START, the programmer signals that the operation is complete by displaying two asterisks (* *) in the last two display positions.

Eight select functions are specific to the UniPak 2B (BC, BD, C3, CC, CD, CE, CF and EF). The table below gives a brief description of each of these codes. The following pages contain the procedures to access each of these special functions.

UniPak 2B Select Codes

Code	Description
BC	Disables the electronic identifier function.
BD	Enables the electronic identifier function, which allows programming without having to key in the family/pinout code each time.
C3	Displays additional programming capabilities available with some devices the UniPak 2B programs.
CC	Displays the family and pinout code of the last device data moved to the programmer's RAM.
CD	Displays the device's electronic identifier, a binary code that contains information on manufacturing code and device code.
CE	Sets the number of programming pulses applied to each byte at the manufacturer's specified number.
CF	Sets to one the number of programming pulses applied to each byte of the device to be programmed.
EF	Displays the revision level and version number of the UniPak 2B's firmware. These numbers are used when identifying equipment over the phone to Data I/O technical support personnel.

NOTE: The key sequences shown here are for operation using a Model 29 A/B programmer; see your programmer manual for procedures specific to your programmer.

Codes BC and BD—Disable/Enable Electronic Identifier

Functions BC and BD are used to disable and enable the electronic identifier function. You may use the electronic identifier feature in two ways. The first use of the identifier is to prevent accidentally damaging a device by keying in the wrong family and pinout code. When a family and pinout code is first keyed in, the programmer reads the electronic identifier. If the device has an electronic identifier corresponding to a family pinout code other than the one keyed in, the programmer will signal an error. The electronic identifier is also used to allow programming without having to key in the family pinout code each time. When the programmer prompts you for the family and pinout code, key in FFFF. The programmer will then automatically read the identifier and use the correct algorithm to program the device.

NOTE

Not all devices have the electronic identifier feature; check the device data sheet for details.

To disable the electronic identifier (BC), follow the procedure below.

1. Press [SELECT] ; Model 29 displays *SELECT CODE* ^

2. Press [B] [C] [START] ; Model 29 displays *SELECT CODE* **

To enable the electronic identifier (BD), follow the procedure below.

1. Press [SELECT] ; Model 29 displays *SELECT CODE* ^

2. Press [B] [D] [START] ; Model 29 displays *SELECT CODE* **

Code C3—Access Special Programming Options

Some devices have additional programming capabilities, such as security fuse programming. Select code C3 gives access to these options. See the device data sheet for details on what programming options are available with the device(s) you are using. The device list included with this manual contains option flowcharts for use in accessing complex device options.

NOTE

If the UniPak 2B is being used in a Model 19, this select code will work only from terminal remote.

To display the programming options, follow the procedure below.

1. Press [SELECT] ; Model 29 displays ***SELECT CODE*** ^
2. Press [C] [3] [START] ; Model 29 displays ***FXX PYY OPTIONS***
3. Press [START] ; Model 29 will display the first option.

NOTE

For the 8751H and 9761 devices, the option "PROG SECTY ONLY" will program the security fuse as soon as the option is selected and executed.

4. To scroll through the available options, press the REVIEW key. When the option you want (such as program security fuse) appears in the display, press START. In terminal remote, the RETURN key is used for the START key, and the space bar is used for the REVIEW key.
5. If the option has subheadings under it, press the START key and then use the REVIEW key to scroll through the subheadings. Again, press the START key when the option you want appears in the programmer's display. Once an option has been selected, an asterisk will be displayed after the option name. Complete execution may require doing a number of subheadings. Pressing the START key a second time after an option is selected will exit the options file, and the Model 29 will display OPTIONS DONE * *.

Code CC—Display Last Family and Pinout Code Used

Select code CC displays the last family and pinout code used, generally the last device programmed or read. This function helps determine the family and pinout codes used by the programmer when in the automatic electronic identifier mode.

To display the family and pinout codes of the last algorithm moved to RAM, follow the procedure below.

1. Press [SELECT] ; Model 29 displays *SELECT CODE* ∧

2. Press [C] [C] [START] ; Model 29 displays *XXYY* **

NOTE

XX represents the family code; YY represents the pinout code.

Code CD—Display Electronic Identifier

Function CD displays in hexadecimal 16 bytes of the device's electronic identifier. Byte 0 identifies the manufacturer; byte 1 identifies the device. For information on the purpose of the remaining bytes, consult the device data sheets.

To display the electronic identifier, proceed as follows:

1. Press [SELECT] ; Model 29 displays *SELECT CODE* ^

2. Press [C] [D] [START] ; Model 29 displays *000X YY*

3. To display additional bytes of the electronic identifier, press [START]

   Model 29 displays *000X YY*

   To back up through previously displayed identifiers, press [REVIEW]

   Model 29 displays *000X YY*

NOTE

OOOX represents the byte number of the identifier displayed (i.e., OOO1 represents byte 1 of the electronic identifier, which is the device code). YY represents the identifier byte in hexadecimal.

Codes CE and CF—Set Reject Count

Functions CE and CF are used to set the reject count (the number of programming pulses applied to a fuse or cell before it is rejected). Select code CE sets the reject count back to the commercial specification (this is the default value) and CF sets a single-pulse reject count.

To select the commercial (default) reject count (CE), follow the procedure below.

1. Press [SELECT] ; Model 29 displays *SELECT CODE* ^

2. Press [C] [E] [START] ; Model 29 displays *COM REJECT LIM***

To select the single-pulse reject count (CF), take the following steps:

1. Press [SELECT] ; Model 29 displays *SELECT CODE* ^

2. Press [C] [F] [START] ; Model 29 displays *ONE PULSE RJCT***

Code EF—Display Configuration Information

Function EF calls up a four-digit hexadecimal configuration number and a two-digit decimal version number that correspond to the revision level and version number of the UniPak 2B firmware. These numbers are used when identifying equipment over the phone to Data I/O technical support personnel.

To display the UniPak 2B firmware configuration and version number, do the following:

1. Press [SELECT] ; Model 29 displays *SELECT CODE ^*

2. Press [E] [F] [START] ; Model 29 displays *XXXX YY CFG VR ***

NOTE

XXXX represents the UniPak 2B firmware configuration number, and YY represents the version number.

Error Codes

NOTE

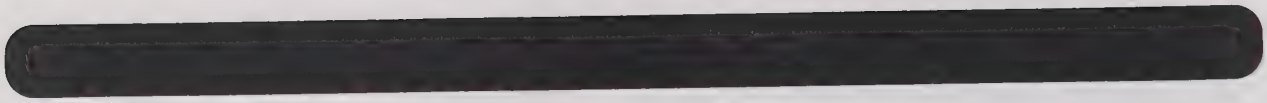
In the case of an error condition, be sure that the family and pinout codes are correct for the device installed; refer to the device list to cross-check family and pinout codes. If you get a recurring error, call your local customer support center listed at the back of this manual

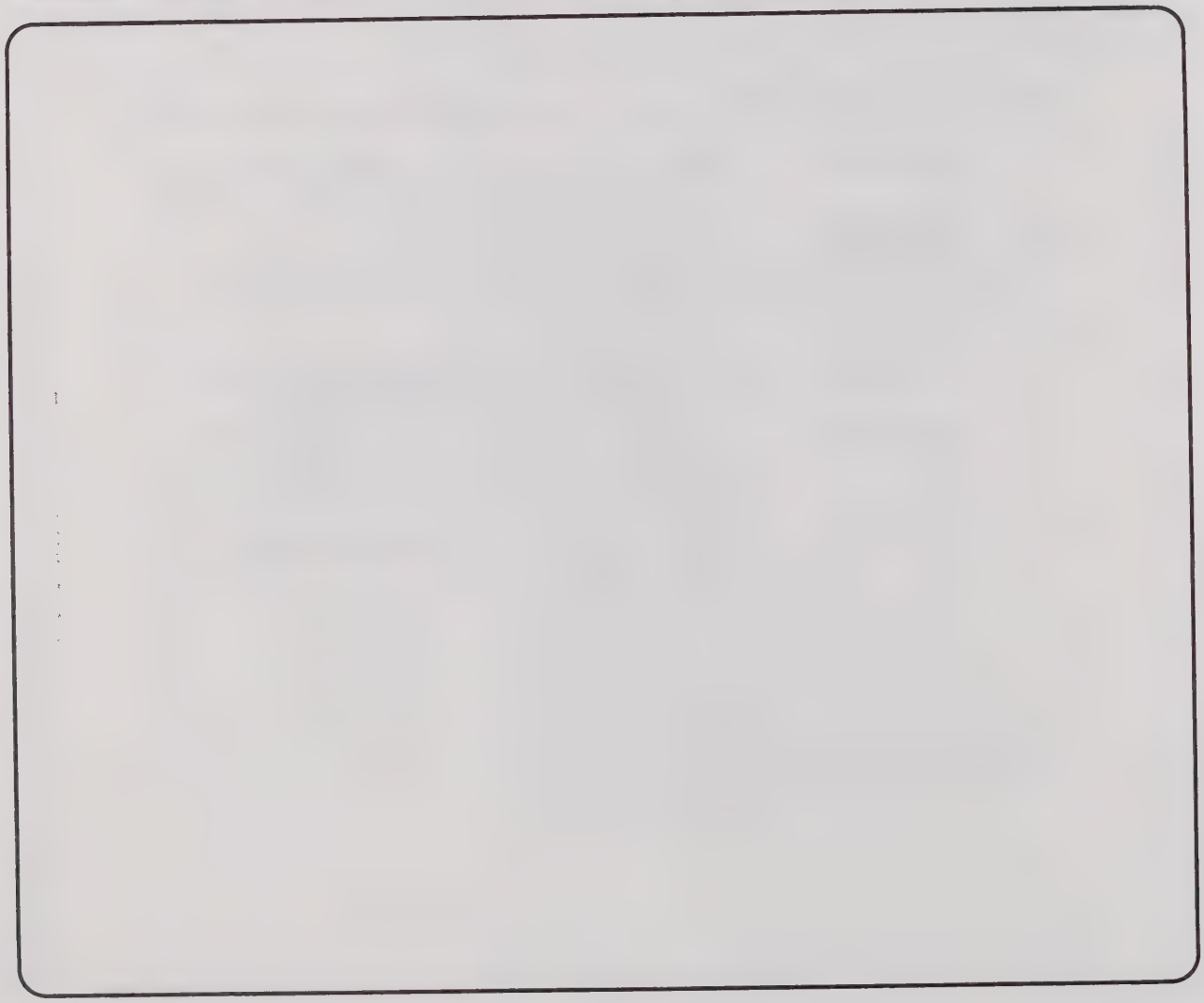
Code	Name	Description
20	Non Blank	The device you are attempting to program contains already-programmed locations. You can program over these locations by pressing START.
21	Illegal-Bit Error	The device cannot be programmed due to already programmed locations of incorrect polarity.
23	First-Pass Verify Error	The device data was incorrect on the first pass of the automatic verify sequence during device programming.
24	Second-Pass Verify Error	The device data was incorrect on the second pass of the automatic verify sequence during device programming.
27	Insufficient RAM	Due to the value of the Begin RAM Address, there is insufficient RAM to program the device, or the total allotment of RAM resident is less than the word limit of the device.
30	No Programming Algorithm	Valid family and pinout codes are not selected, or family code selection not followed by pinout code selection.
31	Excessive Current Drain	The operation aborted due to excessive current drain by a device.

Error Codes

Code	Name	Description
32	Backward Device	The operation aborted due to V_{CC} level test indicating a backward device.
35	Faulty Chip Select	The operation aborted due to data being present while a device is disabled.
37	Socketing Error	Operation aborted due to a low V_{CC} level indication on sockets presumed to be empty. A device may be in the wrong socket, or two or more devices may be socketed simultaneously.
38	Illegal Operation During Calibration	An illegal or invalid operation was attempted during calibration.
39	Failure to Lock Security Fuse	The security bit did not program and the device is not locked.
70	Faulty Bit Supply	The operation aborted due to a faulty bit supply. Do not use UniPak 2B until repaired.
71	Faulty CS Supply	The operation aborted due to a faulty CS supply. Do not use UniPak 2B until repaired.
72	Faulty V_{CC} Supply	The operation aborted due to a faulty V_{CC}. Do not use UniPak 2B until repaired.
A1	No Identifier Found	The device does not have an electronic identifier. The electronic identifier mode cannot be used.
A2	Invalid Identifier	The electronic identifier of the device has been read and it indicates that the device cannot be programmed using the selected family and pinout codes. Consult the device table for the correct family and pinout codes. Try the operation again using these codes.

Code	Name	Description
B0	Byte Erase Error	The device does not have a byte erase mode. Block limits must be removed and a chip erase performed. The entire chip may then be reprogrammed.
B1	Chip Erase Error	The device does not have a chip erase mode.
B3	Wrng Pin Cart	The wrong pinout cartridge is inserted in the UniPak 2B. Check the device list to make sure you are using the correct cartridge.
B4	Odd Ram Limit	Applicable only to word-wide devices, this error means that an odd RAM address was set for device operations. Check the address and try the operation again.
B5	No Block Size	Applicable only to word-wide devices, this error display indicates no block size was set for the device operation. Check the set block size and attempt the operation again.
B7	No Pnout Cart	There is no pinout cartridge installed in the UniPak 2B. Install the cartridge.





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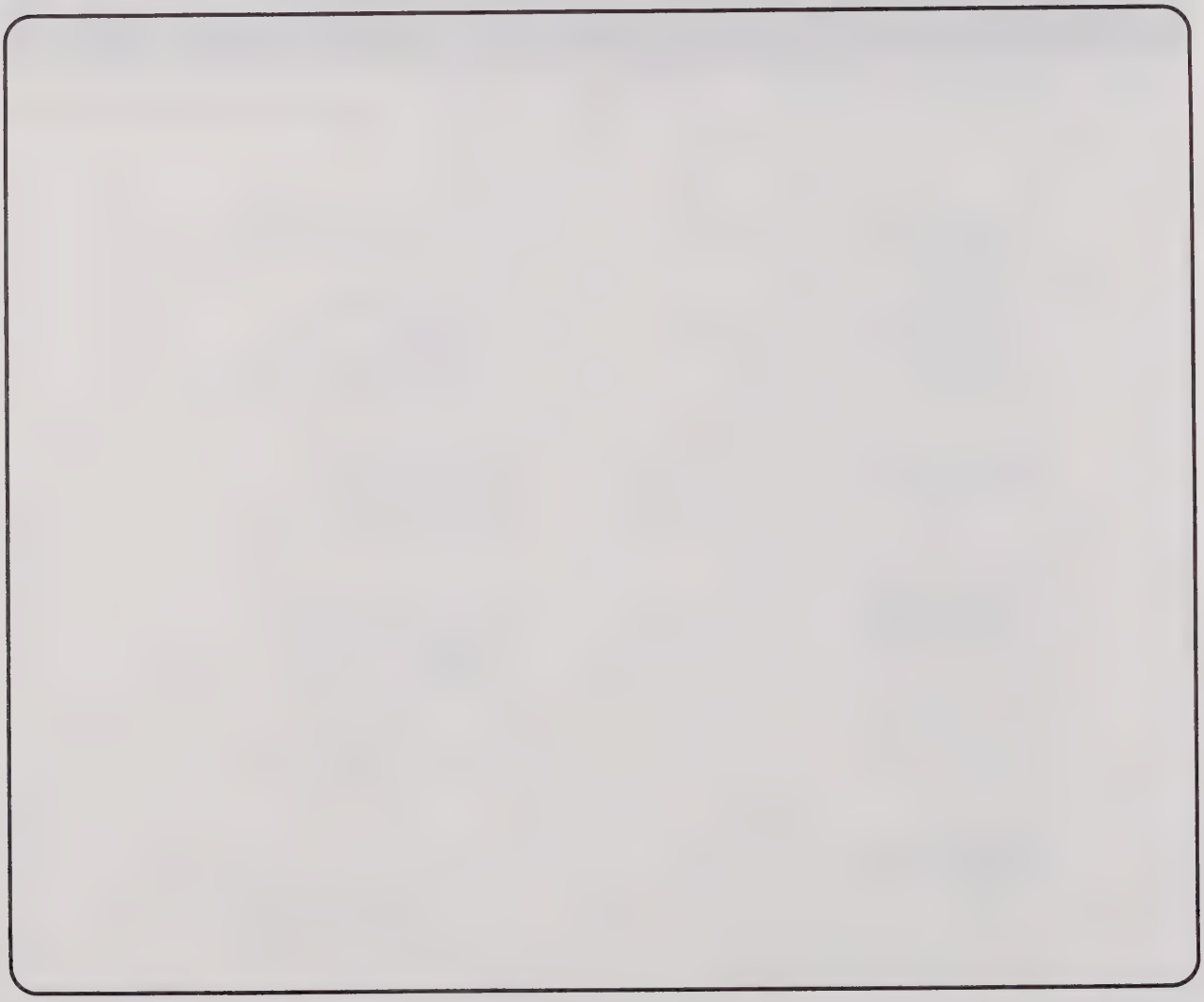
*Check the device list included with this manual



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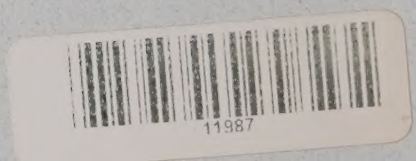
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